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business

JUNE 1956

LABORATORY EXPERIMENT, UNIVERSITY OF CALIFORNIA, BERKELEY (page 23)

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JUNE 1956

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Among the Authors

Fred R. Ingram

FRED R. INGRAM, chief industrial health safety engineer for the division of occupational health, University of California, describes in detail the occupational disease hazards staff and students face at a university (*p.* 23). He has occupied his present position for four years; prior to that he was occupational health engineer for the California State Health Department. Mr. Ingram was a state sanitary engineer in Reno, Nev., for a year and assistant engineer for the Pacific Gas and Electric Company for a three-year period. A graduate of Stanford University, he earned his master of science degree in industrial hygiene at Harvard University. He served on the board of the American Industrial Hygiene Association from 1946 to 1948, and was co-chairman of the association's 1953 conference.

James Van Zwoll

JAMES A. VAN ZWOLL, professor of school administration at the University of Maryland, recently completed a study of college unions and student centers; he reports some findings and conclusions in his article on page 28. Before going to Maryland, he served on the faculty of the University of Iowa and of the University of Michigan—as assistant professor of school administration and as lecturer in school administration, respectively. During World War II he was an anti-submarine warfare officer in the Atlantic and Pacific theaters. For a four-year period before the war, he was assistant superintendent of schools at Port Huron, Mich. Dr. Van Zwoll has written extensively for educational publications.

Leslie P. Hardy

LESLIE P. HARDY, financial vice president of the University of Akron and secretary of the board of directors, reports on page 30 the negotiations involved in setting up special university zoning by authority of municipal officials. This problem, an acute one for many institutions located in urban areas, appears to have been well handled in Akron. Mr. Hardy went to the University of Akron in 1934 as director of evening studies. In 1937, he established the Community College, a noncredit branch of the evening session, and under his guidance evening enrollment in the division of adult education grew from 500 to 5000.

RAYMOND SPILMAN, industrial designer of New York City, is author of the portfolio on residence hall furnishings beginning on page 33. Mr. Spilman made an extensive survey among college and university officials to determine desirable elements of design in residence hall furniture. Following his graduation from Kansas State College, Manhattan, he served for three years as a staff designer for General Motors Corporation, where he designed automotive hardware and accessories for all G.M. cars. From 1938 to 1940 he was a free lance designer, specializing in plastics. Then he became a product designer for Walter Dorwin Teague. Later, he went to Johnson, Cushing, Nevell of New York City as chief of the design staff. He also has done design work for the U. S. Signal Corps and also for the U.S. Navy. As member of the committee on education for the Society of Industrial Designers, he serves as adviser to colleges and universities on the subject matter to be incorporated in courses of study leading to a degree in industrial design.

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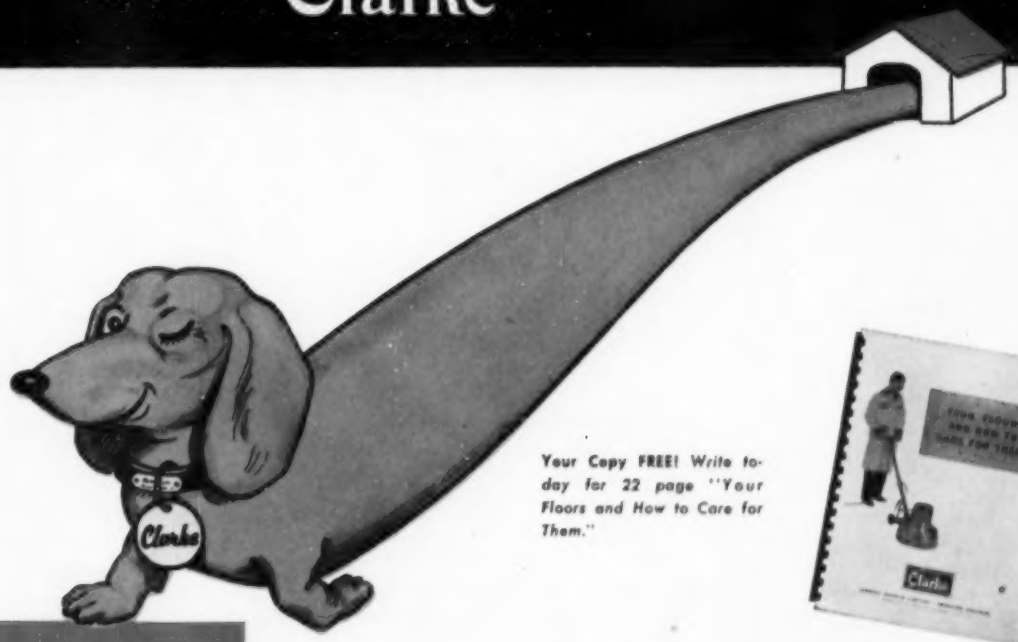

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QUESTIONS AND ANSWERS

Parking Problem

Question: We are faced with a severe parking problem at our institution and wonder what other colleges have done to control the parking problem on their campuses. —M.R.M., Pa.

ANSWER: This problem was discussed in detail at the annual meeting of the National Association of Physical Plant Administrators of Universities and Colleges. Most institutions reported the establishment of a permit system, primarily for faculty and staff, but extended to students if sufficient parking facilities are available. Parking regulations and policy usually are determined by a top administration committee and enforcement handled by the buildings and grounds department.

Charges for parking privileges vary from $3 to $25 a year. Penalties for parking violations on campus vary from a $1 fine for the first offense at many colleges to a $50 fine for the third offense at the University of Kansas Medical School.

Income received from parking permits and penalties for incorrect parking are earmarked for additional parking facilities. Some universities reported they were constructing ramp garages, underground garages, toll gate systems, and parking meters in order to handle the problem.—H.W.H.

Increasing Tuition

Question: In increasing tuition charges, are colleges really "pricing themselves out of the market"? Or is that cliché pretty much of a myth?—T. S. Pa.

ANSWER: Generally speaking, I would say "no." Present tuition levels have risen less since the war than most any other single item in our economy. The wage income level and corporate profit indices have increased at a much higher rate than tuition. Price levels of standard commodities also have increased at a greater rate. Faculty salaries generally have increased far less than wages and salaries in other industries and professions, primarily because of the failure of income of tuition rates to keep pace with the cost of living or the trend of the purchasing power of the dollar.

It is only because many people think that education should be free that there is any question regarding increasing tuition rates. Dr. Earl J. McGrath, former United States Commissioner of Education, recently suggested at the conference on education that there be a 50 per cent increase in the tuition fees for all students. He warned that educational quality will soon deteriorate unless the student pays a greater proportion of his college education. It is interesting to note that 20 years ago we spent 5 per cent of our incomes on education; today we spend only 2½ per cent.

Governing boards and the administrations of colleges and universities everywhere, both private and public, must take a realistic point of view regarding tuition *now*. To prepare for, and to meet, the pressures resulting from the multiple increases of students, it is essential that institutional income be augmented by a tuition rate consistent with the value and the cost of the product.—GEORGE F. BAUGHMAN, *business manager, New York University.*

If you have a question on business or departmental administration that you would like to have answered, send your query to COLLEGE and UNIVERSITY BUSINESS, 919 North Michigan Avenue, Chicago 11, Ill. Questions will be forwarded to leaders in appropriate college and university fields for authoritative replies. Answers will be published in forthcoming issues. No answers will be handled through correspondence.

Compulsory Insurance Fees

Question: The question I should like to have answered pertains to the student group plan of accident and sickness insurance. Where participation in the program is voluntary on the part of the student there is, of course, no problem. The student signs up and pays the premium. But if a school signs up, let us say, for 100 per cent participation (in which case the premium is considerably lower) for the whole year's enrollment, this makes participation on the part of the student compulsory. My question is: Can the school automatically assess the premium-fee on all students' bills and demand payment?—M. J. Wis.

ANSWER NO. 1: Fees at an educational institution are legally set by the board of control. If the board of control has approved the contract for student insurance, and stipulates that the coverage is to be compulsory, the business office can legally assess the fee and collect it. Usually the compulsory feature applies to all students carrying a credit hour load above a fixed number of hours. This figure may or may not be the criterion that differentiates a full-time student from a part-time student. At our institution, the student pays the fee if he carries eight or more semester hours.—GERARD BANKS, *bursar, College of Puget Sound.*

ANSWER NO. 2: The board of control of a privately endowed college or university usually has authority under its charter to assess any fees it feels necessary. A study of charges assessed by such schools frequently will indicate a charge for student accident and sickness insurance. Occasionally you will find it is buried in an infirmary fee. In my opinion, while we have a voluntary rather than an involuntary plan at the American University, the school, if the foregoing conditions obtain, is perfectly justified in making such a charge upon approval of its board of control.

I assume the same conditions obtain for public colleges and universities. —W. O. NICHOLLS, *treasurer, the American University.*

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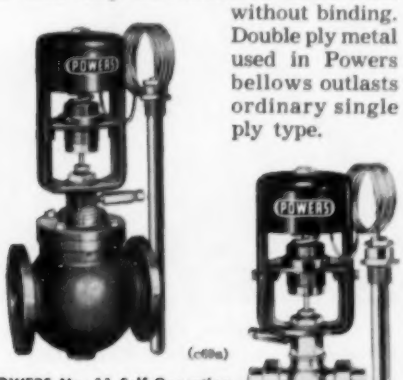

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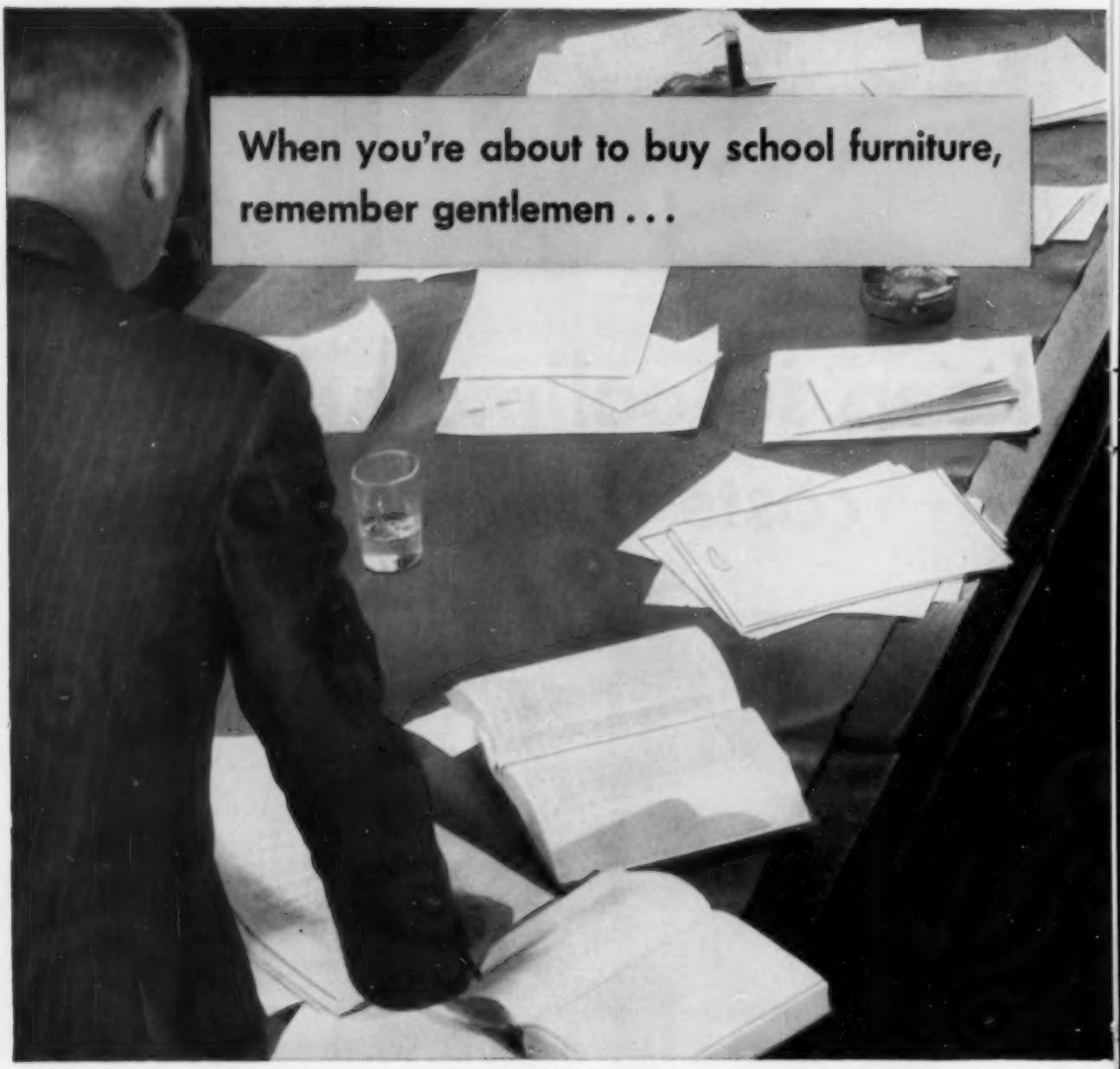
Mopping is so easy and fast. Notice that this school uses nothing but Crane wall-hung fixtures. From left to right —Crane Walton closet, Crane Neu-Rio urinals, and Crane Norwich lavatories. The newly designed Norwich lavatory has Neu-Spray fitting with strainer, which permits a spray-type hand wash for easy quick washing.



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Think hard! Can you afford to think *only* of dollars and cents when investing in school furniture? If not, then you *must* consider Brunswick. Brunswick School Furniture is as much a part of the living and learning process as the curriculum itself. *Only Brunswick* gives you color, advanced design

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direct food flow cuts steps, speeds service

ideas from Blickman-Built food service installations

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PORTABLE BINS ELIMINATE WASTE MOTION — Stainless steel baker's tables with portable bins underneath. Bins are wheeled directly to supply section and filled with ingredients. Rehandling is eliminated — waste motion reduced to a minimum. When bins are removed, area beneath table can be cleaned easily.

MOVABLE CARTS SAVE LABOR — Working side of stainless steel cafeteria counter. Movable carts beneath counter can be loaded with food, avoiding unnecessary handling of separate dishes.

● Reflecting careful planning, compact arrangement of equipment in this installation cuts down steps in the processing of foods. In the kitchen, food flows smoothly in direct lines from receiving to storage and refrigerators, and thence to the preparation areas and cooking section. From these locations, the distances to the storage spaces in the cafeteria line are short and direct. Speedy, step-saving service is further aided by portable bins, under-counter carts and pass-through facilities. These features eliminate waste motion and increase operating efficiency. Stainless steel equipment with rounded corners, rolled edges and crevice-free surfaces make cleaning easy, aid sanitation. When you plan your mass-feeding installation, you, too, can obtain substantial savings in labor and maintenance costs by specifying "Blickman-Built."

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A KEN WHITE COLLEGE OFFICE *at the Iowa Memorial Union, State University of Iowa. For frequent meetings and conferences, Ken White Associates custom-designed an over-size desk to accommodate a number of chairs in an orderly manner.*

For over a decade now, Ken White Associates have been going to college . . . in order to analyze, create and carry through to completion functionally designed interiors for college unions, college stores, offices and dormitories. The interiors produced in fulfillment of these many design commissions — some of which are shown on these pages — all bear striking witness as to how a close cooperation between university architects and industrial design specialists working together as a complementing team, can take a *visual idea* and project it into an *existing reality*. The end result—imaginative operational interiors...indigenous to the school's own unique traditions, sympathetic to the purposes for which the rooms are to be used, and cognizant of administrative problems in management.

10 YEARS AND 90 INSTITUTIONS LATER . . .

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. . . from the decoration of one room to the planning of an entire building . . . from the interior design of a new building to the refurbishing of an existing facility . . . for campuses large or small throughout the country.

A Check List of Ken White Services

Essential Services

- **SURVEYS**
  field trips to the campus . . . analysis of all facilities . . . study of the institution's history and traditions
- **CONSULTATIONS WITH ADMINISTRATORS AND ARCHITECTS**
  comprehensive study of architectural plans to achieve a harmonious blend between exterior and interior . . . examination of administrative requirements
- **PRE-PLANNING ANALYSIS**
  exploration of design possibilities on the basis of the above surveys and consultations . . . first rough sketches
- **PRELIMINARY AND COMPREHENSIVE INTERIOR DESIGN RENDERINGS**
  planning of layout, color, light and furnishings in a series of sketches . . . supplemented by further studies and surveys
- **DETAIL PLANNING**
  analysis of function . . . fulfillment of purposes for which each room was intended
- **SPECIFICATION WRITING**
  determination of fabrics, textures, colors, finishes
- **ESTIMATING**
  presentation of a complete, detailed budget
- **CUSTOM-DESIGNING FURNITURE AND ACCESSORIES**
  development of furniture units for special purposes
- **CHECKING PROGRESS REPORTS**
  constant awareness of all deadlines . . . check for early delivery of furnishings
- **MURAL DECORATION**
  planning and design of appropriate murals . . . execution of same at the Ken White studios or on campus . . . supervision of installation
- **SUPERVISING INSTALLATION OF FURNISHINGS**
  to carry through to completion the initial rendering on paper . . . to complete the cycle from *visual ideal* to *existing reality*

Related Services

- **MARKET ANALYSIS OF THE CAMPUS**
  including the areas in which college stores, unions or dormitories are to be located
- **TRAFFIC STUDIES AND TOTAL CAMPUS PLANNING**
  geared to student service and successful marketing of supplies
- **CONSULTANTS ON FOOD PLANNING**
  design of kitchen and soda fountain layouts, location of vending machine units
- **DEVELOPMENT OF SPECIALIZED EQUIPMENT**
  i.e.: self-service store units, information counters, automatic music systems
- **CONSULTANTS ON LIGHT, COLOR, DECORATION**
- **OFFICE DESIGN SERVICE**
  for facilities of all types . . . analysis of work flow, design of special equipment, planning of interiors
- **GRAPHIC DESIGN SERVICE**
  plans for uniforms, menus, matchbook covers, stationery, related equipment
- **DESIGN OF SPECIALIZED VENDING AND FOOD SERVICE OPERATIONS**
  interiors for mobile units, for bulk snack operations used in stadiums, field houses, etc.

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PRESIDENT'S RECEPTION ROOM

THE CARNATION ROOM—*nightclub atmosphere*

PREVIEW OF THINGS TO COME *at Bowling Green State University, Ohio.*

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IN COLLEGE UNIONS

Lobbies
Snack Bars
Nightclub type rooms
Bowling Alleys
Game Rooms
Offices of all types
Music Rooms
Browsing Libraries
Faculty Clubs
Women's Lounges
Dining Rooms
Specialized Suites
Ballrooms of all sizes
Publications Offices
Hobby and Craft Rooms
Hotel Guest Rooms
Outdoor Patio Areas
Signs and Murals

IN COLLEGE STORES

Entrances
Textbook Departments
Book and Supply Fixtures
Sportswear Departments
Self-Service Units
Cashiering and Check-out Counters
Show Cases
Stock and Supply Rooms

IN DORMITORIES

Lobbies
Lounges of all types and sizes
Dormitory Rooms and Suites
Snack Bars
Browsing and Music Rooms

IN COLLEGE OFFICES

Main Offices
Control Offices
Conference Rooms
Waiting Rooms
Reception Rooms
Student Office Areas
Business Offices
Publications Offices

DIRECTOR'S OFFICE *at the Iowa Memorial Union, State University of Iowa. Ken White Associates kept in mind that the office of the Director often becomes a meeting place for visiting dignitaries and university officials preceding important events. Hence the atmosphere of culture and good taste, patterned after the finest modern executive offices.*

THE NEST—*soda fountain and snack shop*

MAIN WOMEN'S LOUNGE

These are four of the interiors planned by Ken White Associates for one of the most unusual college union buildings ever built. They are included in Ken White's booklet, INTERIORS OF COLLEGE UNIONS, a handsome 32-page survey — in full color — of Ken White-designed college facilities throughout the country. Please use the coupon on the following page for your free copy of this booklet, and for more detailed information on Ken White services.

Ken White Associates wish to express their sincere appreciation to the Directors and architects of the college unions shown on these pages, for their close cooperation in the execution of these interiors.

IOWA MEMORIAL UNION: *Director — Dr. Earl E. Harper. Architects — George Horner, Architect for the University, in collaboration with the firm of Tinsley, Higgins and Lighter.*

BOWLING GREEN STATE UNIVERSITY: *President — Dr. Ralph McDonald. Architects — Sims, Cornelius and Schooley.*

Ken White solves college store problems of space with

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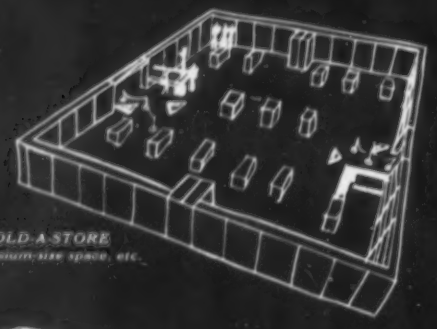
a unique series of functional folding units to be set up anytime, anywhere on campus . . . stored away when not in use!

One basic unit plus another makes . . . FOLD-A-STORE

front view of a FOLD-A-STORE

Born a baby of the cramped, crowded inefficiency of many college stores at the beginning of each semester, Ken White Associates have developed FOLD-A-STORE, a series of flexible folding fixtures. Through FOLD-A-STORE, set up only when and where needed, the college store is able to expand easily and service the demands of the student body without rush and crush, without long lines and interminable delays.

Ken White's FOLD-A-STORE is neat, compact and practical — more practical, in many cases, than a costly permanent expansion of store facilities, since FOLD-A-STORE can be folded and stored away once the rush is over. The gymnasium, the college union, the auditorium, even the barber shop can house a temporary FOLD-A-STORE when necessary.



an expanded FOLD-A-STORE suitable for gymnasium-size space, etc.

ECONOMICAL! *FOLD-A-STORE units are low-priced, inexpensive to operate. Geared for self service, a 20' x 60' FOLD-A-STORE requires only three employees.*

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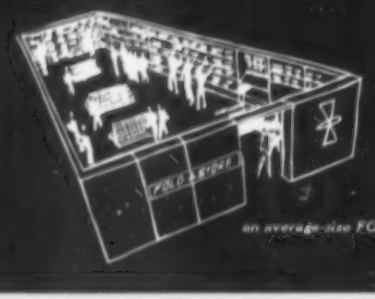
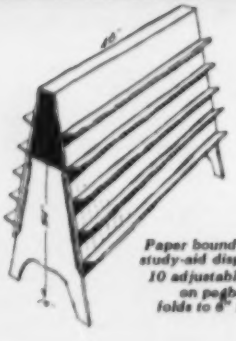
- ISLAND-GONDOLA FLOOR UNITS
- BOOKS



an average-size FOLD-A-STORE

Bulk spiral bound book filler and binder unit— 3 adjustable shelves on pegboard folds to 6" x 4' x 4'



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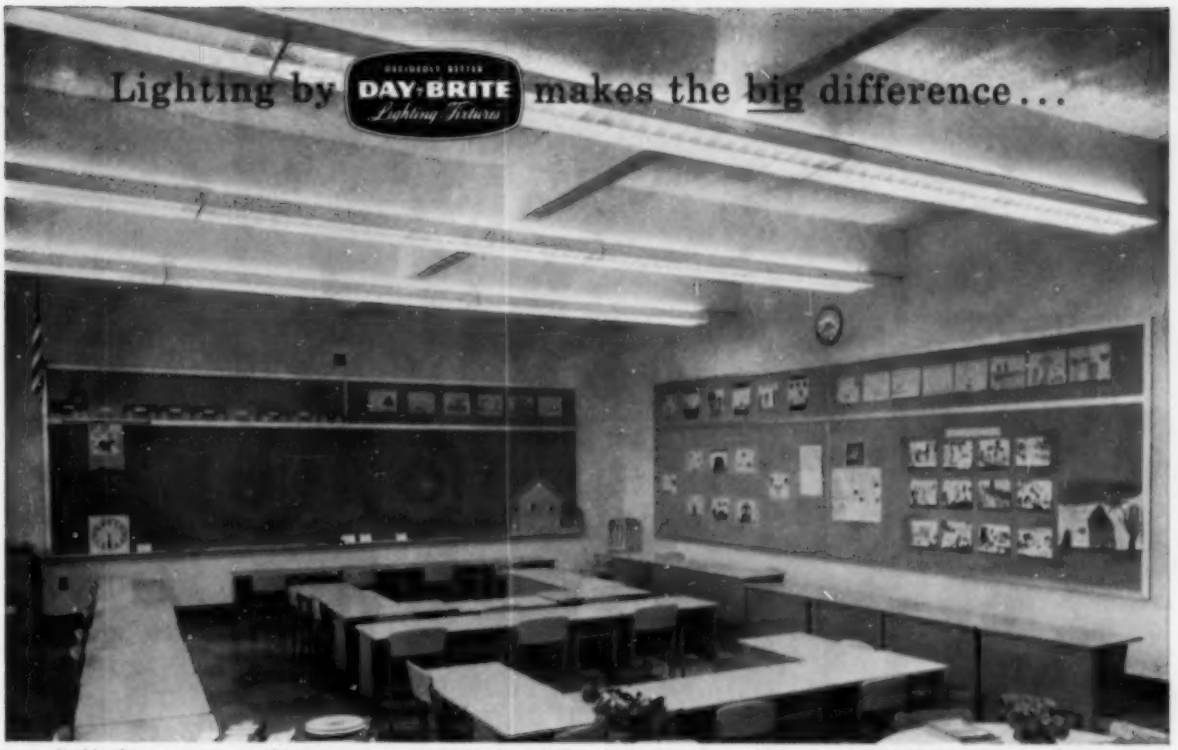

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GUEST EDITORIAL

A Time for Decision in Higher Education

JOHN W. GARDNER
President, Carnegie Corporation of New York

IN 1954, INFORMED AMERICANS BECAME AWARE of the impending crisis in higher education. They have yet to examine the questions which that crisis poses. What are the crucial issues? They may be summed up in terms of four questions: (1) Who should go to college? (2) What kinds of education should be provided? (3) How can we avoid the worst effects of mass production in education? and (4) How shall we pay for it all?

In the long run, our ability to give an intelligent answer to the question "Who should go to college?" depends on the extent to which we succeed in thinking clearly about certain underlying considerations—the distribution of abilities in the population, our tradition of equality of opportunity, the levels of advanced training that our kind of society demands, the true potentialities of college as a factor in individual development, and our ability to pay for what we want.

Our traditional convictions concerning equality of opportunity incline us to be as generous as possible in admitting young men and women to college. Our basic commitment in this regard is unequivocal: Every youngster should be given the opportunity to develop what talents he possesses. But no youngster should go just because "it's the thing to do." College may be a valuable experience, a barren experience, or an injurious experience. The decision must be made in terms of the individual's capacities and motivations on the one hand and the kind of educational program offered on the other.

What kind of education should be provided? Much attention has been given to the question of whether the undergraduate years of higher education should give primary emphasis to the liberal arts or to technical, professional and other specialized vocationally oriented curriculums. Perhaps the most important observation to be made in this connection is that the liberal arts are not incompatible with a considerable degree of specialization and professional orientation. The liberal arts should not be sequestered in separate institutions but should have a vital place in every institution of higher education.

In our national enthusiasm for higher education we have poured great numbers of young people into our colleges and universities. And though these institutions have done a valiant job of accommodating the flood of students, everyone knows the unfortunate consequences: incredibly large institutions, theater-sized classes, production-line methods, absence of individual treatment, and student anonymity.

With the tremendous expansion anticipated over the next decade, such conditions might be greatly intensified. But we need not reconcile ourselves to these conditions. We have moved toward more and more enormous institutions, but this is not a necessary outcome. We have developed mass production methods which "process" very large numbers of students with a minimum of personalized attention.

Any reversal of the trend toward huge institutions and regimental sized classes will require a considerable degree of determination and of organizational ingenuity, but it can be accomplished if we care enough about accomplishing it. And we had better care. The crowding that our institutions will face in the years ahead could destroy significant individual learning and turn our institutions into mockeries of higher education.

This does not by any means require the reflexive avoidance of so-called "mass media." It is possible, indeed most probable, that films and television—properly handled—ultimately can play a creative and significant rôle in our higher education. But such methods must be used imaginatively and they must never be used as a complete substitute for the face-to-face interaction between an able teacher and an interested student.

It is of utmost importance that the American people be realistic about the costs of higher education. They should not commit themselves to more higher education than they can maintain—and are willing to pay for—at a reasonable level of quality. If we cannot maintain our higher educational plant at a decent level, if we cannot pay our teachers respectable salaries, if we cannot provide the student with learning experiences that make for growth, if, in the interests of economy, we must fall into assembly-line technics of grinding out mediocrities, then we had better lower our aspirations with respect to the numbers who should receive higher education.

LOOKING FORWARD

The Federation

IN THE RELATIVELY FEW YEARS OF ITS EXISTENCE, the National Federation of College and University Business Officers Associations has made a record to which it can point with pride. Governmental and educational organizations are turning to it as a spokesman for business problems of higher education, and the recent 60 College Cost Study under its sponsorship has met wide acceptance on the part of both education and business. At the present time the federation is negotiating for the development of a consultation service, which should represent another significant forward step.

To those in higher education it is a constant source of amazement that the business officer has, up to this time, been so inarticulate. All other segments of the structure are organized and prepared to tackle problems on an over-all or national basis. Not so with the business officers. They've set up their regional empires and tend to view with suspicion any attempts to act in concert. The tremendous pressures of enrollment, financial support, and construction costs may ultimately force adjustment of outmoded attitudes to a concept that approaches problems on a national basis.

As has been mentioned in these columns before, it would be helpful to the cause of higher education if the national assembly of the federation would meet oftener than every five years, the present time schedule. Such meetings would be productive if held every three years. And there is every reason to believe that a biennial meeting might bring even more significant accomplishment. Admittedly, some regional associations may have imagined interests that they wish to protect, but it is doubtful that the ultimate good of national action is outweighed by the provincialism of regional differences.

Changing the Rules

COLLEGE AND UNIVERSITY EXECUTIVES ARE EXCITED by research contract developments with the federal government. For more than nine years they have negotiated contracts on the basic principles established by the "Blue Book," or the manual on governmental research contracts with colleges. Now it appears there may be a change in the rules.

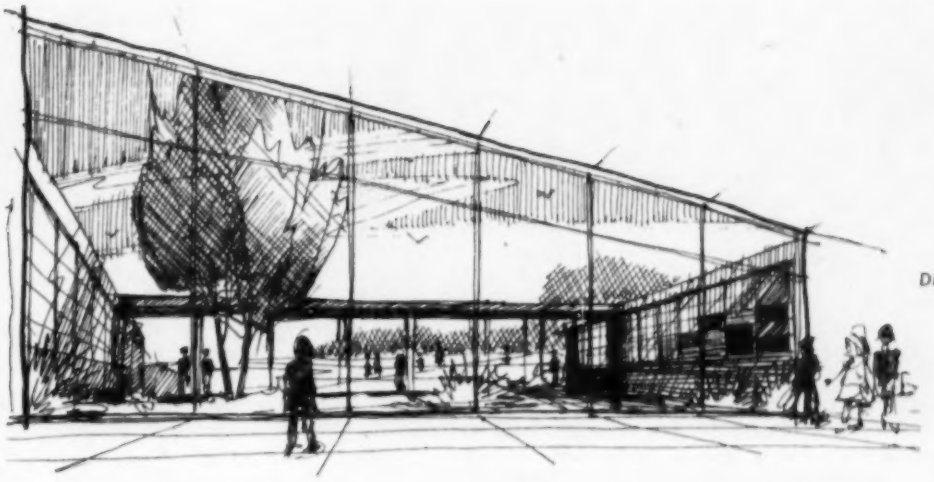
As reported by the standing committee on government relations of the National Federation of College and University Business Officers Associations, "under date of Jan. 27, 1956, the Comptroller General of the United States addressed a letter (B-126794) to the Secretary of Defense dealing with the manner in which the military services have been contracting with both nonprofit and commercial organizations."

The letter cited four examples of contract, two with commercial organizations and two with universities, and pointed out that they were negotiated under the authority of the Armed Services Procurement Act of 1947, 62 Statute 21, and that they have "the common characteristic of providing for overhead payments by means of predetermined overhead rates to be applied to some element of direct costs which is undetermined at the time the rate is set, with no provision for retroactive adjustment to the actual cost." The letter further set forth that, in the opinion of the Comptroller General, this method of contracting for research violates the expressed prohibition in the Armed Service Procurement Act of 1947, and is therefore illegal.

On April 6 Joseph Campbell, the Comptroller General, and representatives of the standing committee on government relations of the National Federation of College and University Business Officers Associations met to discuss the implications of the decision. The Comptroller General gave sympathetic and understanding attention to the representation made. He indicated that he saw no reason for changing the principle of overhead cost determination based on interpretations of the Armed Service Procurement Regulation, Section XV, Part 3, and the Blue Book. Furthermore, it was agreed that "actual" as applied to overhead costs in the Jan. 27, 1956, decision, when used in reference to nonprofit educational institutions, can only mean approximate cost as defined in the Blue Book.

What is the significance of this hassle? It merely indicates that he who gives can also take away. College executives are placed in the position of having the rules changed after the game is already started.

In many respects, college executives have not stood their ground courageously. Nobody forces them to accept government contracts, certainly not contracts that place the institution in the position of subsidizing the federal government. Some institutional executives are so "research happy" that they will sign anything to land another contract. If these executives would stand up for their institution's rights, they might discover that nobody can push them around.



FRED R. INGRAM
Chief Engineer
Division of Occupational Health
University of California

From occupational disease

No Campus Is Immune

WHEN THE TERM "OCCUPATIONAL disease" is mentioned, most people think only of the illnesses occurring among workers in industry. It is hard to visualize the ivy covered walls of the college or university as being the site of occupational disease.

The University of California is a state university with eight campuses and a large number of field stations and projects scattered throughout the state. Different interests are focused on different campuses, from the graduate study in medicine and the sciences to undergraduate teacher training and liberal arts work. The diversity of our teaching and research on the several campuses offers a comparative locale for almost any type of college or university.

Some 10 years ago our university physician observed that there were health and safety problems which, he believed, could best be handled by extending his then existing statewide public health program to include not only sanitation but occupational health, radiation safety, and general safety. This feeling was shared by others. Partial implementation of the program was obtained in 1947 when a statewide safety supervisor was appointed to operate under the vice president for business affairs. Our safety supervisor has more recently been named the university safety and disaster preparedness coordinator.

Slowly, the over-all program has been expanded by the regents as definite need has been shown. The statewide division of radiation safety was established in the office of the university physician in 1949 and, as part of its program, physical examinations are given to all persons already employed or entering upon work with radioactive materials.

Of the group of persons examined, 20 per cent exhibited physical signs that were thought to be related occupationally to exposures to various solvents. This was substantiated by occupational histories and later through quantitative tests of the laboratory work places. The tests were made by the occupational health unit of the state department of public health on request of the university physician. It was established that the physical findings could not have been due to radioactive materials but only to exposure to solvents.

On the basis of this information and on the growing feeling of need, a university division of occupational health was authorized by the regents in 1952. It was directed "to make a complete survey of all occupational health hazards on all campuses." The division, in addition to the chief engineer, with his statewide responsibilities, consists of two occupational health engineers and two occupational health chemists. For convenience in servicing the statewide spread of the university, a team consisting of one engineer and one chemist is located on the Berkeley campus while the other team is on the Los Angeles campus.

The survey of the hazard potentials at the University of California was an eye-opener.

We found out that, on all of our campuses, there was an average of 6.7 toxic material exposures per person. We found also that, with an average of 16.2 persons per work place, there were 109 man-material exposures per work place (6.7 exposures times 16.2 persons). For the entire university (all campuses) 33 per cent of the total population was exposed to general chemicals, 33 per cent to various gases, 32 per cent to organic solvents, 31 per cent to alcohols, esters and ethers, and gradually decreasing percentages for the entire classified list of 41 main headings to 4 per cent to siliceous dust.

An interesting bit of mathematics in which we indulged at the time and which emphasized to us the potential

From a paper presented at the second National Conference on Campus Safety, University of Minnesota, 1955.

of on-campus occupational disease cases was this: By applying the 20 per cent factor obtained from the radiation safety physical examination program to the 32 per cent of the persons exposed to organic solvents, we could project that 6.4 per cent of the total campus population would, if examined, show physical evidence of solvent exposure.

Unfortunately, because of lack of available medical personnel and partly because of lack of time to do physical examinations of all of our people, we have not been able to determine, actually, whether we are close to, or far from, this figure. We do know that, whenever we have found atmospheric concentrations to be in excess of the maximum acceptable concentration (M.A.C.) for the materials involved, almost always we have found that people have been made ill or have experienced discomfort from the conditions. There are, of course, other factors than the simple exceeding of the M.A.C. to complicate the picture.

As might be expected, the survey revealed that some materials, and therefore some exposures, were common to all of our campuses, but that on some campuses certain exposures assumed greater prominence owing to the type of work or teaching done. For example, on the agricultural campuses, there was a much higher percentage of persons exposed to organic solvents, to gases, to the various alcohols, and to chemicals generally than on those campuses where a large percentage of students were concerned with the liberal arts only.

We found also that the exposure time to toxic materials varied considerably. The undergraduate came into contact with potentially dangerous conditions only during his two to three hour laboratory periods in chemistry, physics or engineering, and then only two or three times a week. The research man, the graduate student, the technician and the professor were in the laboratory continuously, often from 14 to 16 hours a day. If, on the other hand, toxic materials are present in the atmosphere, even in small quantities, there are two factors—length of time of exposure and the combined low level effect of exposure to several toxic substances at the same time—which probably increase the effect on the person or persons so exposed. To what extent and how often this happens we do not know, but we do know of cases in which the illness could be explained only by low level exposure to several toxic materials at the same time.

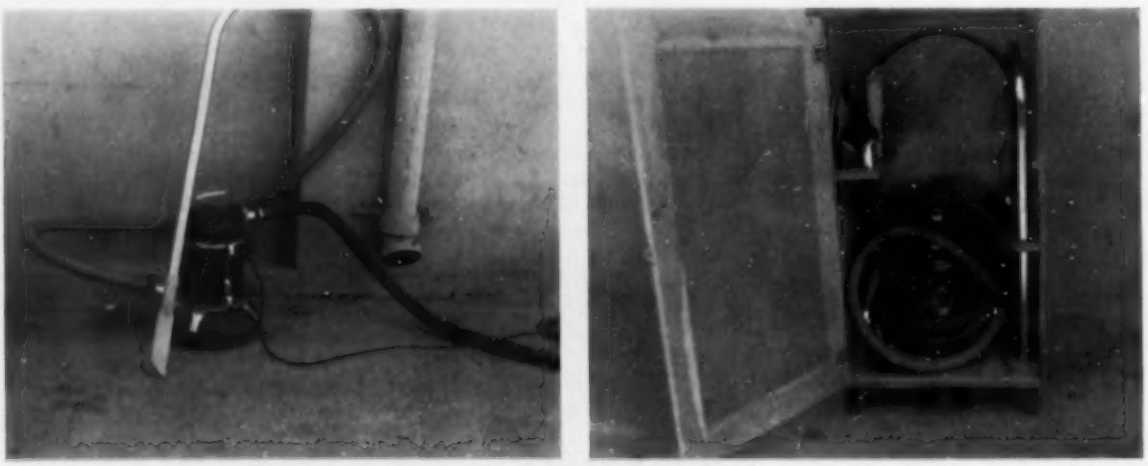
Whether a health hazard really exists, *i.e.* the severity of the exposure, cannot be estimated by visual means alone. Quantitative measurements must be made of the workroom atmospheres, both in the general area and in the student's or employe's breathing zone, to establish the concentration of each toxic material. These values must then be evaluated as to length of exposure, type of material, whether more than one material is involved at the same time, and the pathologic action.

Once having established that certain types of work under certain conditions do cause dangerous atmospheric concentrations unless adequate safeguards are taken, it is well within the purview of an occupational health division to suggest, recommend and, in some instances, even insist on the provision of certain control facilities in other similar circumstances. These controls can be standardized for given operations and recommended as the procedures to be followed even though tests are not made to prove the particular situation.

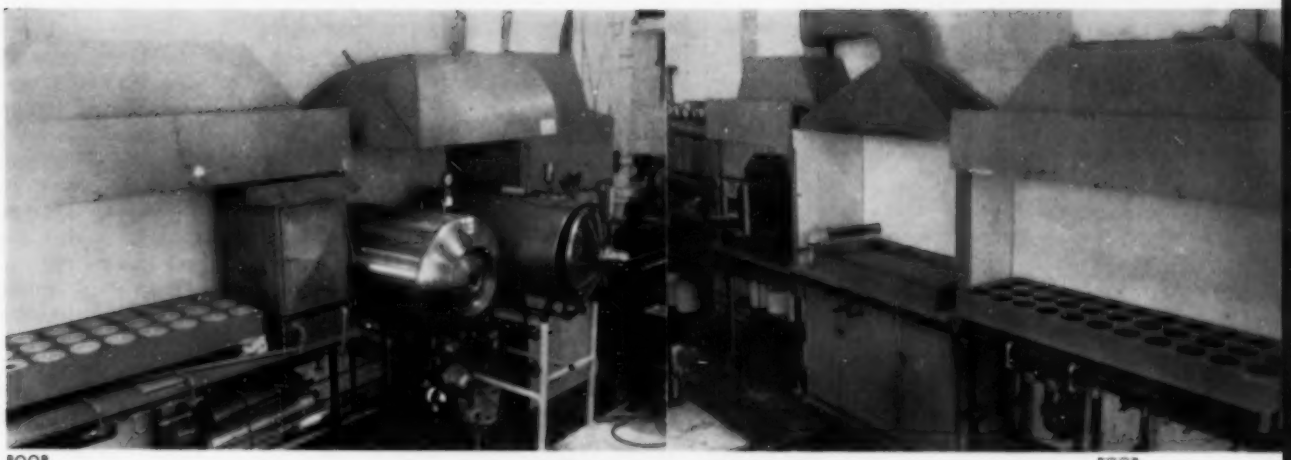
There is ample background for such thinking. One has only to refer to the various standards published by the American Standards Association, to the safe practices pamphlets of the National Safety Council and of various technical associations, and to the recommendations of the several manufacturers of protective equipment to be assured that one's experiences are not unique.

The extent of the occupational disease problem on college campuses can be demonstrated further by some of the activities of our division. Division personnel, during the fiscal year 1953-54, was involved in quantitative determinations of contaminants in work places a total of 119 times. These determinations were all made at the request of the departments concerned because persons already had become ill or it was feared that conditions were severe enough that they might soon become ill. We also made personal contact with campus personnel to demonstrate conditions, to answer requests for information, and to advise on methods and other process operations, again at departmental request, 31 times.

We made follow-up visits in 79 cases of illness suspected of being occupational in nature. These cases were reported to the division either by the department of insurance and retirements or by referral from the physi-



Water reservoir vacuum cleaner for mercury cleanup; left, assembled for use; right, stored in transport case.



POOR

POOR

GOOD

Above: Poorly designed hoods for fume collection. Note shallow depth, lack of plenum chamber and slot exhaust ports, and inadequacy of canopy hood over sterilizers. Face velocity 25-50 f.p.m. Right: Adequately designed fume hood. Note top and bottom exhaust ports into plenum chamber. Slot openings are adjustable. Face velocity 100 f.p.m.

cians on the division of radiation safety's medical program. Each case was followed up to determine the occupational relationship, to ascertain the workroom conditions, and to advise the department on safe procedures in order to avoid future cases. When necessary, recommendations for installation of applicable physical control measures were made.

Thirty-six requests for the study of mercury contamination in workrooms and laboratories were received. Several questions prompted these requests: (1) What was the mercury hazard from normal operations in the workroom? (2) An accidental spill for some reason had occurred; to what concentration of mercury contamination were the inhabitants in the workroom or laboratory exposed? (3) The floors, furniture and equipment were given emergency cleanup after a spill; how effective was the cleanup? What mercury residual remained?

In studying the conditions to answer these questions, we learned that a great variation in concentration (from 0.01 Mg/CM to as high as 3.2 Mg/CM) (the M.A.C. is 0.1 Mg/CM) might be present under ordinary working routines in our chemistry and physics laboratories; that almost always a spill caused an increase in general room atmospheric concentration equal to, or greater than, the amount of the maximum acceptable concentration, and that the cleanup measures usually taken after the spill were generally inadequate, so that dangerous atmospheric conditions remained even after cleanup.

The problem was widespread enough and considered severe enough on all campuses for the university physician to furnish the respective business managers with specifications for the purchase and operation of at least one water-wash vacuum cleaner of adequate size for mercury cleanup for each campus. The university physician also requested that each business manager establish loan procedures for the use of the vacuum cleaner and maintenance procedures for its upkeep. The division of occupational health prepared a leaflet "Procedure Standard for Prevention and Cleanup of Mercury Contamination," for distribution to each department.

Accidents causing mercury spillage continue to occur, but it is satisfying to know that the cleanup facilities provided have been accepted by the operating personnel and are being used. The large number of calls that the division receives now for checkup after vacuum cleaning and the low concentration usually remaining (an

average of less than 0.04 Mg/CM) attests to the acceptance and usefulness of the program.

The most frequent request we received during the last fiscal year was for checks on the effectiveness of ventilating facilities. Questions such as these could have been asked:

Is a uniform velocity of 100 lineal feet per minute maintained across the face of our chemical fume hood? Is the local horizontal slot exhaust ventilation at our acid mixing bench sufficiently great to give us a 50 f.p.m. control velocity at the outside of the working area? Is the canopy hood over the range in our cafeteria kitchen of adequate dimensions, and is it operating at 100 f.p.m. velocity across the face?

Seldom did we receive requests in the form of the foregoing questions. Sometimes we were asked: "Will you check our room for ventilation; we do not like the odor we have here." "Our hood blows back into our faces. Will you check to see why?" Or many times, we had a complaint such as "Professor X is generating H_2S in his lab, and the gas is coming into our room. Please do something about it."

SUBSTANDARD CONTROL EQUIPMENT

Probably the greatest problem on our campuses is the use of substandard control equipment. Without knowing the difference, the personnel for whom the fume hoods, for example, are provided might feel that adequate protection is afforded when the button is pushed starting the exhaust fan motor. If, as we have found in many instances, the air volume moving through the hood is not properly distributed across the work area and if it is not of sufficient volume to provide an adequate pickup velocity for the noxious fumes and vapors, there is often a backflow of toxic substances into the room and into the breathing zone of the technician working at the hood.

The commercial chemical fume hood is not always of the best design. Any chemical fume hood design should include a provision for balancing the air flow across the face in accordance with the varying uses of the hood, and for obtaining a uniform face velocity of 100 f.p.m. across the entire open face of the hood when in the cold state (no Bunsen burners or hot plates involved). Our division has developed one design that will meet these requirements and that we offer as a standard for use on all of our campuses. Hoods for radioactivity and bacteriological protection require different designs and different face velocities.

Another type of problem with which we have become concerned is the rapidly increasing use of paper chromatography as a laboratory tool.

I shall not describe the methods or equipment employed in chromatography except to indicate that present practice causes the operators in one method to be exposed to solvent saturated air for from 5 to 15 minutes during each complete cycle of the work. Solvents used include combinations of such toxic materials as phenol, butyl alcohol, pyridine, butadine, benzol, toluol and certain acids. Cabinets are used for saturating the filter paper sheets, but exposure occurs when the saturated sheets are removed to a hood or to another cabinet for drying. After being dried, the papers are sprayed with an indicator or fixer, such as ninhydrin, one of the alcohols, or some other material, and this provides an additional opportunity for exposure to toxic substances. All of the materials involved in this work are dangerous, but they can be used safely when proper protective measures are taken.

We found that general room ventilation for chromatographic operations was entirely inadequate and that some type of enclosure was necessary. We suggested first a modified chemical fume hood. This was satisfactory for the small scale operation of one or two chromatocabs and a drying cabinet, but larger hoods for larger operations, of course, required a greater volume of air to maintain hood face velocity. This proved mechanically impractical to obtain and uneconomical to furnish. At the present time we are testing several methods of overcoming this problem; the ideas and the equipment show considerable promise.

Most people give little more than passing thought to the occupational disease potential present in those laboratories in which work is done with pathogenic organisms, such as Mycobacterium tuberculosis, Brucella and so forth. Even those closely associated with the work sometimes may forget the danger and become careless.

In one instance on one of our campuses, the department head asked us to work with him to survey and measure the problem, as he questioned the adequacy of the control measures provided. The room originally was equipped with a small hood, which was ventilated by a small propeller fan through a duct to one of the windows. Under the best of conditions, the fan did not develop sufficient air volume for proper ventilation. The situation was aggravated by the opposed action of the building ventilation system, which at times created a negative pressure in the hood. This condition would not have been good even with a larger exhaust fan. Contaminated exhaust air discharged just outside the window and was free to reenter the building through opened windows, thus becoming a source of disease not only to those originally involved but to others in the building.

RECOMMEND REMEDIAL MEASURES

After a complete study of the work procedures and existing room ventilation, we made recommendations, emphasizing the need for immediate remedial measures, including air isolation of the room from the rest of the building (sealing off vents, windows and doors); provision of enclosed hoods with hand slots (of a type recognized as best for bacteriological work); a minimum of from 100 to 150 f.p.m. velocity across the slot; provision for filtering and sterilizing the effluent air; an exhaust system of duct work that would extend above the building roof line and discharge vertically upward, and provision for filtered tempered makeup air in about 90 per cent supply of the exhaust volume in order to place the room under a slight negative pressure with respect to the rest of the building. Coincidentally, with the installation of these facilities a medical examination program was established as a control. The program received the full endorsement of all persons involved. It has been in effect more than a year with the gratifying result that all medical and environmental findings have remained normal.

In connection with the work being performed in this room, questions arose as to the adequacy of protective measures in the animal quarters utilized by this project. Both medical and environmental evaluations were made, and it was concluded that not only the project personnel but persons passing through the adjoining public corridor were subject to possible infection. The additional persons from the

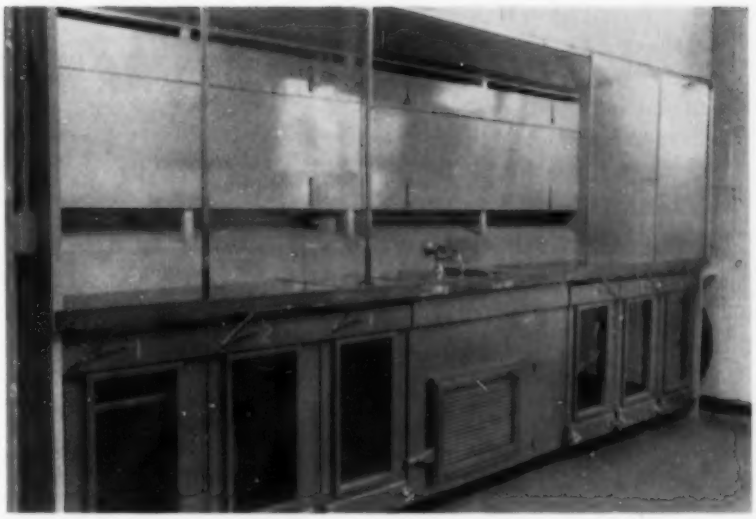
project were quickly added to the list of those who would come under the medical examination program, and several recommendations were made for altering the layout of the animal quarters, for providing adequate and proper exhaust and makeup ventilation, and for establishing an instruction sheet for the guidance of project operating personnel. These recommendations have been activated.

Not all of our problems are born on campus, however. We were certain that it would be only a matter of time until our people would begin making complaints about air pollution from off-campus sources. Persons stationed at one of our installations near an industrial area complained of noxious fumes and irritating odors. The finger of suspicion pointed to a neighboring chemical works. The division of occupational health was asked to investigate. Since this was a problem involving an outside plant it seemed wise not to depend on circumstantial evidence. In fact, it was decided that factual data even on atmospheric behavior must be obtained.

Meteorological data were correlated with the number and type of complaints, the ill effects on individuals, the time of day, and the day of the week. With this information the plant in question was pin-pointed as being the source of the odors.

As additional quantitative data were required to determine the severity of the pollution, atmospheric samples were collected at different times of the day, on different days, and at various locations, according to the indication of the preliminary physical data. Medical examinations were made of those persons who seemed most affected, but nothing more than raw throats and noses and some eye irritations were found. Atmospheric concentrations that could be considered nothing more than irritating to mucous membranes when breathed were revealed. No high concentrations in the toxic range were recorded.

The entire problem was discussed with the management of the chemical company. Not only was the company sympathetic to the plight of the university personnel but, realizing its own responsibility to abate the nuisance, planned many steps to this end. A survey of the company's facilities was made by engineers of our division at the company's request. Our proposed controls were noted with satisfaction. Since these installations have been completed, no complaints have been received from our station personnel.



Above: Modified chemical fume hood for enclosing chromatography operations. This hood contains six chromatography cabinets, a drier, and a small solution preparation sink. Face velocity 100 f.p.m.

Above: Bacteriological hoods. Note restricted face of hood for hands only, and filter boxes above each hood. Face velocity 100-125 f.p.m.

These are only a few of the problems we have been called upon to study. Some exposures to hazards, such as to insecticides, may be limited to small areas on certain campuses. Other exposures that we have studied may be found on all campuses. Examples of the latter are: exposure of maintenance men to dusts, paints and solvents from sanding and spray-painting operations in refinishing desks and other furniture; exposures of boiler operators and stationary engineers to carbon monoxide in heating plant and incinerator operation; exposures of office workers and librarians to solvents from spirit duplicating and multilithing operations and from typewriter cleaning; exposures of students in the art department to solvents, acids and paints, and also to lead, carbon monoxide and heat when engaged in ceramic studies. There are many others.

It thus seems clear that no college campus is immune to health hazards; even the liberal arts college has its share of problems. Nor is any person on any campus completely immune. It is merely that some persons, depending on their activity, have a greater exposure and consequently a greater hazard potential than have others.

What Goes On in the College Center

A cross-referenced check list for use in planning

JAMES A. VAN ZWOLL, *Professor of School Administration, University of Maryland*

AN INCREASED COLLEGE-AGE POPULATION, annual college enrollments that are progressively higher than those preceding, and the certainty that expansion in the field of higher education is destined to continue at an accelerated rate for at least the next 15 years combine to pose many problems for all institutions of higher learning. Among those problems is that of the center or union by which a degree of social unity is established on the campus of the small college, the technical institute, or the large university.

At present there is general acceptance of the place of the college center —variously known also by such other designations as the college union, the student union, and the student center —as the social and recreational hub of the wheel of campus life. In addition, the center is in many ways the pivotal point for the provision of services to students, faculty, alumni, the friends and guests of institutionally connected persons, and at times others who have no institutional ties at all.

Virtually everyone who has been placed in contact with a college center has a general concept as to its place and function on the campus. However, whereas such general knowledge is common, specific and comprehensive knowledge about such centers is confined to the few. And those few will be among the first to acknowledge the need for further exploration and study with reference both to the legitimate or defensible functions of such a center and to the specific kinds of space and equipment to be provided.

During recent years a consensus has developed about involving in the planning all those who are personally affected by the outcome. Without question, students, faculty and alumni can contribute positively to the development of a center which is to represent the particular needs and aspirations of those to be served. A plan so arrived at should be a better plan than one developed solely by the central office in collaboration with an architectural firm and one or more technical consultants. To the extent that shared planning would lead to the construction of a center that would prove to be short of perfection, there is still the extra dividend of the support that cooperative planning commands, the support of the various elements that participated in the evolution of the plan as it was approved and executed.

College centers differ in terms of both the size and the type of college or university. A small private college may have little more than a snack and fountain room with perhaps one or two small rooms for lounging, committee meetings, and special events. The college with a church affiliation may include a chapel and a religious counseling suite. Some institutions will find it possible to do their planning strictly in terms of the services they desire; others will find it necessary to plan in terms of financial restrictions. Where the one institution may rely upon donations, endowments and appropriations, another may have to plan its facilities with an eye to providing a specific or a major part of its financing from revenue producing activities and facilities.

If it is impossible to build what is desired at once, it is well to plan in such a way as to permit the construction of the part which is most needed and to provide in the original plans for adding other facilities when the means become available. Contracting for facilities that will be inadequate even at the time of completion straitjackets the functioning of the center from its first day to its obsolescence. Indeed it may be a factor in hastening the obsolescence of a structure that is likely to be expensive in any event.

Types of Facilities at 38 College and University Centers

- Activity
- Alumni
- Apartment
- Art gallery
- Auditorium
- Ballroom
- Banquet
- Barber shop
- Beauty shop
- Billiards and pool
- Bowling
- Browsing or reading
- Buffet
- Cafeteria
- Card playing
- Chapel
- Checkrooms
- Chess and checkers
- Classroom
- Club rooms
- Committee rooms
- Conference rooms
- Council rooms
- Crafts rooms
- Dining
- Dramatics
- Faculty club
- Food preparation
- Fountain
- Grill
- Guest
- Gymnasium
- Laundry and dry cleaning
  - pick-up stations
  - service facilities
- Lounges
  - alumni
  - employe
  - men's
  - women's
  - general
- Meeting
- Multipurpose
- Music
  - piano
  - record playing
- Offices
  - alumni
  - union management
  - student organizations
  - student activities
- Party
- Photography
- Post office
  - campus mail center
  - U.S. substation
- Publications (student)
- Radio
  - broadcasting
  - listening
- Religious council
- Sandwich
- Shops
  - arts
  - crafts
  - hobby
  - stage
- Snack bar
- Storage
- Store
  - book
  - co-op
  - drug
  - flower
  - gift
  - grocery
  - shopping center
- Study center
- Swimming pool
- Table tennis
- Tavern
- Television
- Theater
- Vending machine
- Y.M.C.A.
- Y.W.C.A.

Probably it is not possible to list all the facilities that should comprise a college center. However, to stimulate thinking, a fairly comprehensive list of facilities has been drawn up from a review of the floor plans and of the written descriptions of college centers at 38 colleges and universities.

Centers varied from the modest to the pretentious, from a few rooms to hundreds of rooms, and from one or two major types of activities to provisions for practically every type of activity and service. The mere listing of facilities helps to focus attention specifically upon the many kinds of physical provisions made in centers at the junior colleges, nonpublic and public colleges and universities, and college level institutions of technology.

The alphabetical arrangement of facilities in the accompanying list, while not all-inclusive, points up clearly the variety in types of rooms. In planning, the first consideration is the kinds of activities to be housed and the kinds of facilities to be provided. However, the planner often likes and sometimes is called upon to give assurance that the provision made is in line with practice. Although this is not necessarily defensible, the position of planning agents is strengthened when they can provide such assurance.

The list lends itself to classification so that the 78 items are categorized by type of activity or service. Probably no two classifiers would arrive at the same categories. However, the 16 descriptive titles provide some definitive limits below which the respective facilities are listed by function. Following the different kinds of rooms is some indication as to the extent to which each was found to be representative of practice in the instances reviewed. The range extends from general to often, to seldom, to occasional.

Care should be exercised by those who are involved in planning college centers so that the list, together with its explanatory remarks, will not be used as a criterion for including, excluding or limiting the provision of space in proposed college centers. In each instance, the particular current and anticipated needs of the campus are the first consideration. The lists provided serve their purpose when they constitute a basis for comparison, a point of departure, and a means by which consideration may be given to needed facilities that might have been overlooked.

Classified Facilities of College or University Center

Alumni Facilities (often)

Apartment for the Resident Manager (often)

Checkroom Facilities

Several checkrooms are generally provided in proximity to such of the various facilities as lounges, conference rooms, auditoriums, and the recreational facilities. (Apparently checking service is hardly ever adequate in terms of the need therefor.)

Commercial Facilities

Barber shop (often)
Beauty shop (seldom)
Bookstore (general)
Co-op store (seldom)
Drugstore (seldom)
Gift and flower shop (occasional)
Grocery store (occasional)
Laundry and dry cleaning (seldom)
Shopping center (occasional, when institution is located in an otherwise blighted area)
Vending machine or automats (seldom)

Conference, Committee and Council Room Facilities

Generally several such rooms of varying size, or with such flexibility as to be convertible for small or large group use, are provided.

Eating Facilities (Generally all of the following are provided at the larger institutions of higher education, and several at the smaller.)

Cafeteria Dining room Fountain room
Small or private dining room (Sometimes conference rooms are oriented to the food preparation center so as to be readily convertible to dining purposes.)
Snack bar, grill or sandwich room (sometimes one or more of each)
Banquet room (Often the ballroom also is designed to serve as a banquet room.)

Esthetic Appreciation Facilities

Art gallery (occasional)
Auditorium or theater (often)
Browsing or reading room (often)
Record playing rooms (often)
Radio listening rooms (seldom)
Piano playing rooms (seldom)
Television rooms (often)

Faculty Club Facilities

Dining, lounge and recreational facilities are often provided.

Guest Facilities

(From a few rooms to hotel proportions of 80 rooms or more.)

Hobby Facilities, Including Shops for:

Arts (seldom) Crafts (seldom) General hobbies (seldom)
Photography (often, generally in connection with student publication offices or suites)
Stage props for dramatic productions (whenever there are theaters)

Lounge Facilities

Generally there are several lounges, a minimum of one per floor of a multi-story college center building.
Occasionally a college center will have differentiated lounges for men, women, alumni, faculty, employes and mixed groups.

Meeting Room Facilities

Generally provision is made for several rooms that are designated as meeting rooms as distinct from conference, committee and council rooms.

Office Facilities

The college center management (general)
Student organizations (general)
Student activities and publications (general)

Post Office Facilities

Campus mail center (general)
U.S. post office or substation (occasional)

Recreational Facilities

Billiard and pool rooms (often), with up to 14 tables
Bowling alleys (often), with up to 16 lanes
Gymnasium (occasional)
Table games rooms (often), for cards, checkers, chess, etc.
Table tennis or ping pong (often)
Shuffleboard (occasional)
Swimming pool (occasional)
Y.M.C.A. and/or Y.W.C.A. (occasional)

A City Zones for University Expansion

Akron becomes first city to set aside an acreage for cultural development

LESLIE P. HARDY
Financial Vice President, University of Akron, Akron, Ohio

WHEN THE AKRON CITY COUNCIL voted unanimously in favor of a zoning ordinance creating a University District last year, it set a history making precedent. It is the first known city ordinance setting aside 50 acres for cultural development.

The University District covers an area that includes the present campus and surrounding territory. It is bounded on the north by James Street, on the east by Ellwood Avenue, on the south by Berg Street, and on the west by Sherman and Hill streets.

CONCEIVED IN 1945

The creation of the University District is the culmination of a plan conceived in 1945 and initiated by the university through the City Planning Commission in January 1949.

Every precaution was made to protect the property owners and the university. In sequence, the following official bodies of the city studied the proposal, several of them holding public hearings on the matter: City Planning Commission, board of directors of the university, back to the City Planning Commission, to the city law department for drafting of the ordinance, to City Council, referred to the council committee, and from there back to the council for a public hearing, after three weeks' advertising in the local newspaper.

This development, like most other community improvements, benefits all. It assures the university of long-range planning and development, including off-street parking. It protects the citizens' $9 million investment in its municipal university and also protects the value of property owned by the residents in the area.

IMPROVED VALUES

The university's expansion and development in recent years has definitely improved values in the district. It now appears that this section of the city can be restored to the cultural center that it had been approximately 50 years ago.

To be more specific about the ordinance, the city zoning code consists of three major classifications of uses: (1) *Residence Districts:* class U1, or dwelling district; class U2, or apartment house district; class UD, or university district. (2) *Business Districts:* class U3, or retail business district; class U4, or commercial district. (3) *Industry Districts:* class U5, or ordinary industry district, and class U6, or heavy industry district.

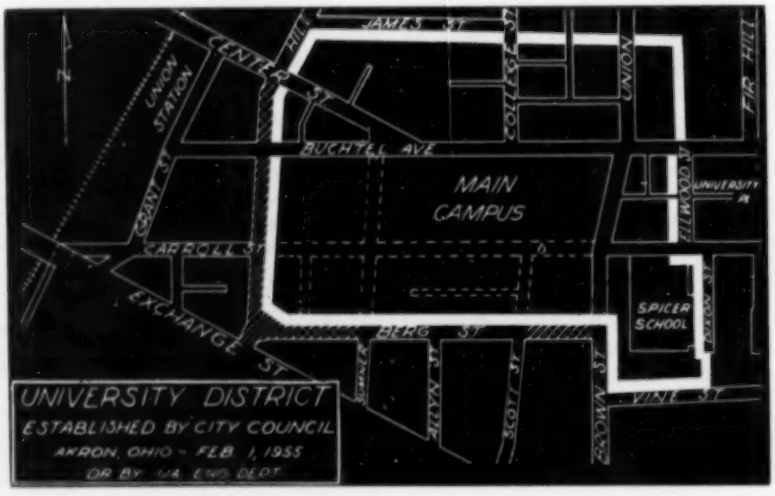
PRESENT USES NOT AFFECTED

The University District is a new classification under the residential heading. Present uses in the district, such as dwelling, apartment house, retail business and commercial, are not affected until they cease operation for one year or until the owners wish to convert to residential or apartment uses. In other words, the properties in the district cannot be converted to uses beyond the present status in the direction of retail business, commercial or industrial classifications.

Residents of the area are benefited because of the university's development; property values will remain at a high level. Residents also are protected from making expensive developments that later might be lost because of the university's right of eminent domain to condemn and purchase for university expansion.

The present demand for enlarged facilities to accommodate the increased number of college-age youths already has proved the wisdom of establishing a University District. The University of Akron has an authorized and official location in the center of the city, easily accessible to all, and with ample opportunity for expansion and development to serve a growing and prosperous community.

Long-range planning and development, including off-street parking, is assured by 50 acre University District in Akron.



The Salary With the Fringe on the Top

WILLIAM J. BARTZ
Bursar, Idaho State College, Pocatello

BEFORE DISCUSSING FRINGE BENEFITS in the college field, I think it is well to spend a few moments on the background of salaries or compensation. We have all become familiar with charts involving "purchasing power," "take home pay," "before taxes" and the many related complexities of the modern pay check. In fact, at times it is difficult to draw an association between one's salary and pay check.

The pay of academics as related to purchasing power is considerably less than 15 years ago. It also has lagged behind the earnings of comparable professions and of manual labor. According to reliable information, the physician of today can presently buy 60 per cent more with his annual earnings than he could 15 years ago; the nonsalaried lawyer 5 per cent more, the factory worker 30 per cent. The college professor is not sharing through the medium of direct salary the current American prosperity. In addition to the foregoing differential in direct remuneration, we must consider that current phenomenon—the salary with the "fringe on top."

What are these benefits? Are they new? Are they important? What fields do they cover? Benefits involving the following have been introduced in varying degrees in different institutions: food, shelter, medical attention, recreation, clothing, educational benefits, employment of wives, the use of institutional automobiles, vacations, sick leaves, and finally retirement. The inference that all of these are available to each member connected with an institution of higher learning is not intended, but all have been implemented, usually in a minor way, to assist in salary supplementation in some form or other.

Hurdles in the form of economy-minded legislators, taxpaying board members, anti-education editorialists, and the like are not foreign to any of us. In spite of these barriers, it is expected that staffs of inspirational, buoyant and convincing professors will be eagerly available on the first day of the fall term. How many times have we found ourselves in the position of diverting attention from the actual salary toward the realm of fringe benefits—with a dexterity amazing to ourselves?

In view of recent legislation much attention has been focused toward the new coverages of O.A.S.I. However, first I should like to amplify on some of the benefits previously suggested.

The trend to free more and more of individual incomes for free choice spending has spawned the concept of fringe benefits. I trust that it never reaches the ultimate as practiced in the armed services where clothing, shelter, food, medical attention, and dependency allowances are almost automatic, and the salary is available for free choice spending. I am unprepared to hazard an opinion as to the desirability of the trend, but it is here. It will grow—our tax structure encourages it—and we must face it.

The plum of reasonably priced and usually subsidized faculty housing has been dangled before many a prospective faculty candidate. It is a fringe benefit of undeniable effectiveness. The experience of faculty housing has not been altogether convincing. As a temporary expedient to provide housing during the interim between the arrival of new staff members and an opportunity to locate permanent quarters, it has merit; however, there are many drawbacks. Namely, is it really self-financed? Is it desirable to isolate the faculty from the community? Does it develop a nomadic faculty without stability or ties?

Institutions long have used the device of free meals to lure a particularly desired staff candidate. The meals usually are earned by the appointee or his wife acting as a host or hostess for a living group, and they form a significant portion of actual income. This provides a stipend that cannot be banked—neither is it in most cases taxable. The recipient is freed of grocery bills and his salary becomes available for spending by choice.

In areas of commuting it is my understanding that arrangements for midday meals are becoming more and more commonplace — if not entirely free of charge, at least at a reduced rate. If the food is not actually furnished, then quarters are available with such things as chairs, vending machines, and tables for the convenience of the lunch bucket brigade. The benefits connected with food services are real and expanding.

The discussion on fringe benefits involving food seems to lead me into the "coffee break" almost as casually as it has been developed in practice. While coffee breaks are not peculiar to institutions of higher learning, the tempo of our institutions as compared with competitive businesses has not been a discouraging factor. Many surveys have been made on the "coffee break" with the conclusions that it is universal, and that it is here to stay.

In the fringe benefit of clothing, the academics again seem to trail the campus laboring groups. It has not been unusual for an institution to furnish smocks or aprons for janitors, uniforms for guards and for food service personnel, and even the garb of a coach at work strongly resembles last year's team uniforms or the items on the latest sporting goods invoice. The practice is not quite so common for professors or employes with a laboratory or storeroom assignment.

The advantages offered through educational benefits to faculty wives and children were surveyed recently in a study completed for the Fund for the Advancement of Education by the

From a paper presented at the Western Association of College and University Business Officers, 1955.

Teachers' Insurance and Annuity Association.

An objective of the study was to develop an attractiveness of college teaching through helping teachers with the problem of financing the college education of their children. The goal grew out of the recognition that average teaching salaries in colleges are relatively unattractive when compared with other professional salaries. Since a general increase in teaching salaries is unlikely, we must again view with hopefulness the possibilities of closing the gap with related benefits.

In the reference study several plans were advanced which included: (1) group educational endowment insurance; (2) a combined fixed dollar and equity investment plan; (3) a deposit-loan plan; (4) reciprocal tuition-waiver among cooperating colleges.

DISCOUNTS TO FACULTY CHILDREN

This is a fringe benefit that undoubtedly will demand more and more attention during the next few years. The practice has not yet spread significantly. A study of tuition discounts to faculty children in 363 U.S. institutions of higher learning, made in 1953, shows that only 36 per cent of private institutions grant discounts of 100 per cent. Another 36 per cent grant a 50 per cent discount; the remaining grants are less than 50 per cent of tuition. About 20 per cent grant no discounts to faculty children. At present few publicly supported institutions make tuition discounts to faculty children.

A cursory examination of surveys involving such benefits as sick leave, five day week, vacations and holidays indicates almost as many variations as institutions queried. In nearly all cases, the benefits of persons identified with education trail those of organized labor. Health plans, usually under a payroll deduction plan, are becoming commonplace in industry and employe contracts of all kinds.

Earlier it was mentioned that recently enacted O.A.S.I. legislation would affect the retirement of educational personnel with impact. It is now possible for employes belonging to the retirement systems of publicly supported institutions to become covered by O.A.S.I. In most cases, enabling legislation by the state is necessary, but a reasonable time allowance is allowable to accomplish the necessary steps. O.A.S.I. coverage for personnel at publicly supported institutions will remove the barriers to the current exchange of academic talent among public and private institutions. It also will remove the present penalty suffered in interstate changes of employment.

The following are highlights and observations of the legislation as compiled by William C. Greenaugh and Francis P. King:

1. Allows O.A.S.I. coverage for publicly supported colleges and universities.
2. Increases social security benefits.
3. Increases social security taxes.
4. Liberalizes eligibility requirement for those who will retire in the next few years.
5. Permits larger earnings without loss of O.A.S.I. benefits.
6. Allows a drop-out of the four or five years of lowest earnings.
7. Creates an opportunity for the public college or university with an inadequate retirement system to establish a fully funded and vested plan to coordinate with O.A.S.I.

At the present time Idaho State College is covered by a state retirement plan, and I can draw several comparisons between my retirement benefits that weigh heavily in favor of O.A.S.I. A keen responsibility of the business officer of any institution is the awareness of the possible loss of benefits in delaying O.A.S.I. coverage. Each year of postponement of entrance reduces the benefits.

ADEQUATE RETIREMENT SYSTEM

The need for early and continuous participation in an adequate retirement system often is overlooked because of the failure to recognize the significant fact of longevity. People live for a long time, on an average, after retirement. Most of us think in terms of life expectancy of 67 to 70 years; these figures, however, are computed from birth. Not so widely known is the fact that having reached the age of 65, you may live, on an average, for a period of time equal to almost half of your active professional life before retirement. Thus, if a person began saving in his early thirties, his savings, together with interest, must equal nearly a third of his salary if he is to maintain the same standard of living after 65 that was enjoyed during his years of earning. Obviously, it takes savings of considerable size and cannot be delayed until 10 to 15 years prior to retirement.

The expansion a few years ago of social security to include private colleges and universities provided an opportunity for reappraisal of existing retirement systems and benefits. At this time quite a few publicly supported institutions have admittedly inadequate faculty retirement plans because of the low benefits provided, the lack of an inflation hedge, lack of mobility, and other disadvantages.

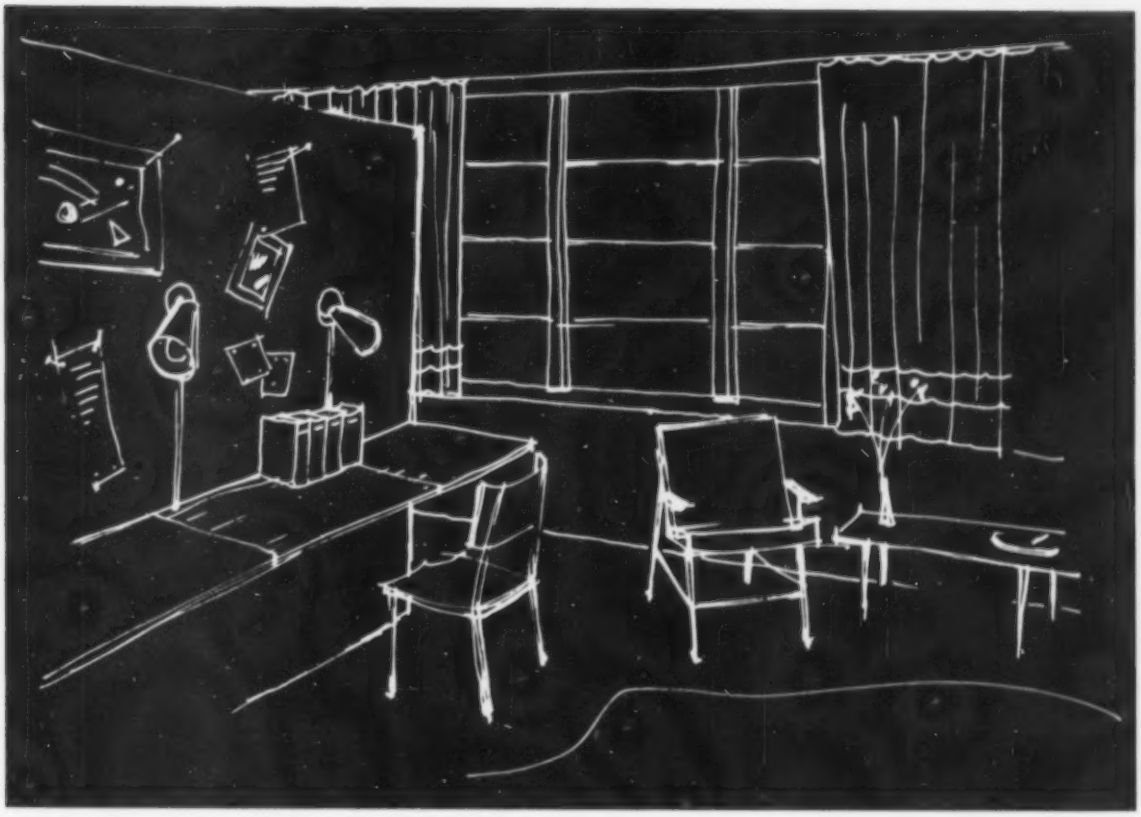
For this group there may never again be so opportune a time as the present for designing a retirement plan with future adequacy. For public institutions already having an effective retirement plan the only real problem is to coordinate them with O.A.S.I. to obtain the most effective dual coverage.

PRIVILEGES TAKEN FOR GRANTED

This has been attempt at a "once over lightly" synopsis of fringe benefits. In addition to those mentioned, many more privileges and availabilities are so taken for granted that they are generally overlooked. I wonder how many faculty home plans have received an assist from the instructors of architecture; how many swims have been enjoyed in the campus pools; how many tennis games on collegiate courts! Where else can life be so completely enjoyable as in sharing the pursuit of learning with other scholars and students? Where else except on a college campus or in a college classroom, with the possible exception of Christian endeavor, can one make such a complete and satisfying contribution to the heritage of the work and of our nation?

Thus, we must not overlook the invisible benefit of rich experience for those working with the processes of education. It is true that our culture appears twisted when it pays more to those who work with their hands than to those who use all their capacities and energies in the behalf of the total personalities of youth and the future of the world. The satisfaction derived from such labors must be a personal beacon of light in this materialistic world.

Though the temptation of martyrdom is often with us, it behooves those connected with education to live in a vibrant and, ofttimes, sacrificial manner. Let Christian society and particularly youth know that teachers and educators who weave the true fabric of our culture do not live by bread alone. Let all teachers and educators believe in word and deed in "Seek ye first the Kingdom of God and His righteousness and all *these things* shall be added unto you."



Residence Hall Furniture—a Survey

RAYMOND SPILMAN
Industrial Designer, New York

THE PURPOSE OF OUR SURVEY WAS twofold: (1) to establish, as accurately as possible, all the physical requirements for furniture used in student residence halls, and (2) to determine future requirements that would affect the design of dormitory furniture.

The results have shown conclusively the need and market for a more highly specialized line of furniture than is offered today. This specific need and the type of furniture that will satisfy the apparent requirements are analyzed in this report. The background material was gathered from colleges, architects and publications.

Colleges. A questionnaire was sent to approximately 250 colleges and college residence hall authorities selected both by our industrial design offices and by the regional sales managers of our client, a furniture manufacturer.

Some 47 replies were received, the great majority of which were exceedingly comprehensive in their analysis of the problem. Additional information was gained when Ohio State University sent the results of its own survey. In addition, other universities sent well planned furniture diagrams of their own built-in furniture and the reasons for their choices. I made a trip to several schools at their invitation to survey their problems and their solutions. We also had the results of previous client research on dormitory desk requirements.

While there were a few opinionated replies, many of the questionnaires were returned with covering letters expressing the writers' interest in our objective and analysis, and indicating that they were at work on the same problem. Some of those requesting a report on our results admitted that they had yet to find ideal solutions. We acknowledged the letters and stated that it would be several months before the results of our survey would be realized in either a report or in furniture production.

Architects. Some 60 questionnaires were sent to offices of architects who have handled major dormitory projects. Few replies were received. Investigation indicated that the architects are besieged by questionnaires and perhaps are unduly wary.

As a result, we made personal contact with nine architectural firms, including some of the largest now

The author has completed a survey of residence hall furniture. Because many readers of College and University Business contributed information in this survey, the client for whom it was prepared—the Simmons Company—thinks it only fair that these contributors see the results. No information was sought on beds, as the client's products will suffice for any known condition. Any facts or comments that have been omitted because of lack of magazine space are available to readers through Mr. Spilman's offices, 270 Park Ave., New York 17, N.Y.—The Editors.

practicing in the field of residence hall work. Results of the personal approach were gratifying.

Publications. All available published material was reviewed. COLLEGE AND UNIVERSITY BUSINESS was most helpful in sending reprints of all its articles.

In general, well over a hundred existing or proposed residence halls have been studied and analyzed. It is encouraging to note that there was a general underlying trend. Major deviations in the survey were limited to isolated cases, such as a military academy that wanted gun racks and complete austerity.

I believe that the most informative method of indicating our findings would be to take up each item as it appeared in the questionnaire. On a few of the questionnaires dimensions were given as "from 26 inches to 28 inches." In such cases both answers were entered in the tabulation. Some respondents gave only partial dimensions. This explains the discrepancy in some of the dimension tabulations where, for example, more widths are given than heights.

Desks

The desk, historically and practically, is a very personal piece of furniture.

Ideally our client would build about six desks to meet the basic desired categories. As it was our aim to simplify the problem into a possible commercial solution, we have outlined an alternative method of solving the problem.

While there emerged no one desk that was "typical," there are several "typical" components that could be made and combined to form any one of the desired desks. We are not referring to a dimensional modular system but only to elements that apply to this particular segment of the total design problem.

Based on the survey results, our recommended desk and its components are illustrated in Sketches 1, 2, 3 and 4.

What should be the size of the desk top?

The following answers were received from those surveyed:

Width in Inches	% of Answers	Length in Inches	% of Answers
18	2.6	30	2.8
20	7.9	36	13.9
21	2.6	40	8.3
22	13.2	41	8.3
24	15.8	42	36.1
26	7.9	44	2.8
27	2.6	45	2.8
28	13.2	48	11.1
30	18.4	50	8.3
32	5.3	60	2.8
34	2.6	72	2.8
36	5.3		
40	2.6		

Please note that there is a wide range of preference in dimension. The Ohio State University survey had similar findings.

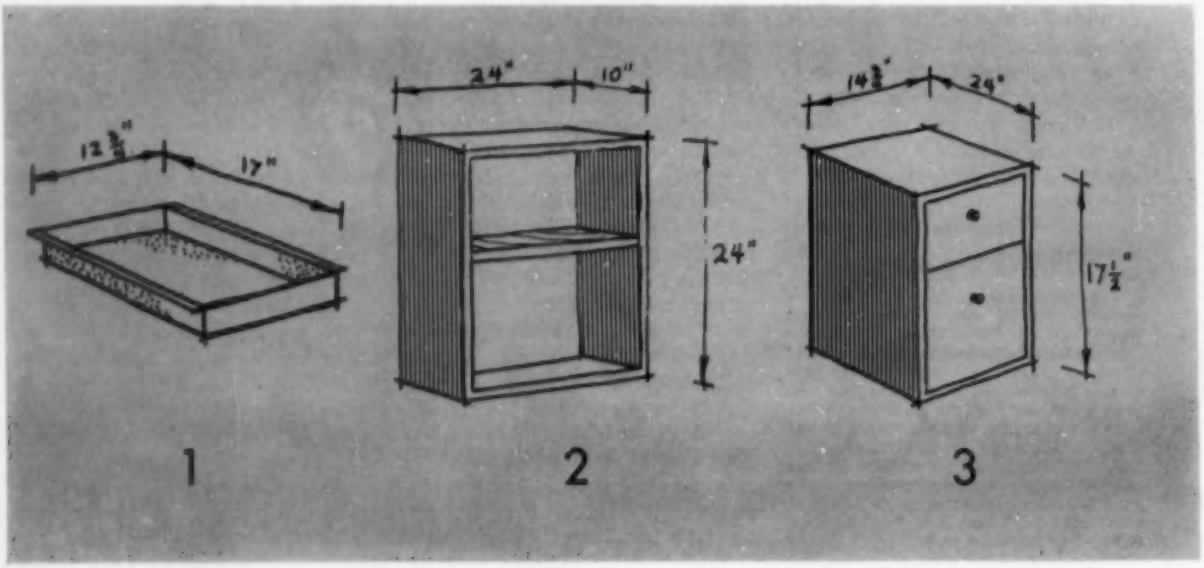
The size and type of the top should also be cross-referenced to some of the later questions.

Recommendations. There is an overwhelming preference for either wood or plastic tops (preference for wood is unanimous throughout the entire survey). We believe, therefore, that the tops should be of wood, capable of being covered with plastic, should come in four sizes (24 by 36, 24 by 42, 30 by 42, 30 by 48), and should be available in any size on special order. An additional advantage to the wood top is the fact that other components, such as pedestals, can be easily bolted to it. There is also a great preference for a removable top that can be refinished.

How many drawers should the desk have?

No drawer, 1.7%; one drawer, 26.4%; two drawers, 15%; three drawers, 34.5%; four drawers, 15%; five drawers, 3.7%; six drawers, 3.7%.

Recommendations. First preference was for three drawers, and second preference was for a single drawer. The latter is invariably a pencil draw-



er, and should be handled as a separate component.

The requests for three or four drawers always called for a pencil drawer and two or three others, one a file drawer. Requests for two drawers mentioned a pencil drawer plus file drawer. A two-drawer pedestal plus a suspension drawer or drawers could handle all conditions in the following combinations:

1 Drawer
  1 suspended drawer
2 Drawers
  1 pedestal (file drawer and smaller drawer above) or 2 suspended drawers
3 Drawers
  1 pedestal
  1 suspended drawer
4 Drawers
  1 pedestal
  2 suspended drawers

How many shelves should the desk have and what is the preferred length?

No shelf, 17.9%; one shelf, 12.8%; two shelves, 59%; three shelves, 7.7%, and five or six shelves, 2.6%.

The large majority preferred two shelves, but there were vast differences in opinion on size and location. Inference and examination indicate that the larger the budget, the more shelves.

The differences of opinion fall into all areas: (1) Shelves should be part of the desk; (2) they should be near the desk; (3) they should be mounted over the desk; (4) there should be a separate bookcase; (5) there shouldn't be any shelves, and (6) there should be as many shelves as possible.

Recommendation. We feel a shelf component that will fulfill all the foregoing areas is the answer. This component is illustrated in Sketch 2 on the opposite page.

One desk with a variable bookcase pedestal similar to this has been worked out by the New York State Dormitory Authority, but, as of the date of the survey analysis, had not been built.

Should the desk be wall mounted or free standing?

Free standing, 66.0%; wall mounted or fixed, 33.3%; debatable, 0.7%.

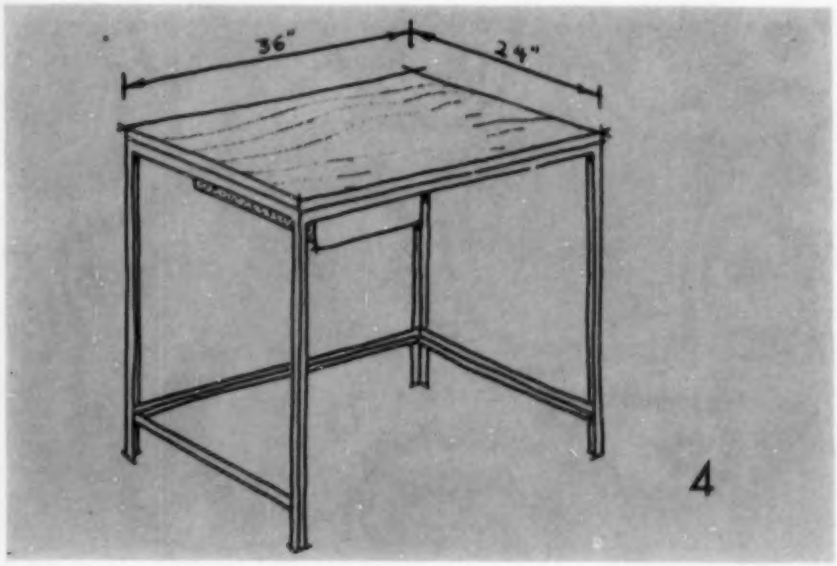
Recommendation. Unless some simple manner of bolting the top and the components to walls or floors can be evolved, we recommend that the desk be free standing.

The fixed desk seems to be preferred for its ease of maintenance. One university, using a wall mount, eliminated all legs and pedestals.

There does not seem to be any cost saving in building in the desk, and a free standing desk allows for individual freedom of arrangement.

Should the desk top be covered in metal, wood, plastic or linoleum?

Plastic, 60.8%; wood, 17.6%; linoleum, 5.9%; metal, 9.9%; resin impregnated, 3.9%; impervious, 1.9%.



Recommendations. This answer is a foil for Question 1, which was limited to size but drew many recommendations on material. It should be noted that two respondents call for resin impregnated tops. This is a relatively new product and appears to be extremely durable. We believe it should be seriously investigated. One respondent mentioned the college had been using this type of top for a year and had found it superior to any previously used material.

Therefore, we suggest an impregnated top or a wood top, or wood under plastic.

Should the desk top be removable for refinishing?

Removable, 74.3%; removable, if wood, 5.7%; fixed, 17.1%; unless plastic, 2.9%.

Recommendation. Removable.

Is a typewriter slide important?

No, 78.6%; yes, 21.4%.

Recommendation. No slide as such, but a pull-out pedestal stand.

Should the desk be built in?

These answers are probably in the same percentage as in the previous question. Many respondents who gave No answers to the previous question did not answer this question. The Yes responses were the same for both of the questions.

Is a file drawer necessary?

No, 65.9%; yes, or very desirable, 31.7%; men, yes; women, no, 2.4%.

Recommendation. As a file drawer is basically determined by size alone, it would be no trouble to incorporate one in the pedestal.

Do you use a single desk or a double desk?

Single, 79%; double, 21%.

What should be the size of top for a double desk?

There were a variety of answers listed: 72" by 40"; 42" by 36"; 60" by 36"; 42" by 41"; 41" by 47½"; 70" by 24"; 47½" by 32"; 72" by 24"; 54" by 50"; 48" by 34"; 144" by 36"; 44" by 44-48", and 16 square feet.

Recommendation. In view of these differences, we recommend that a practical size be established in proportion to the rest of the room components. Perhaps 48 by 32 inches might be a mean figure. (*Cont. on page* 37)

Dresser or Chest

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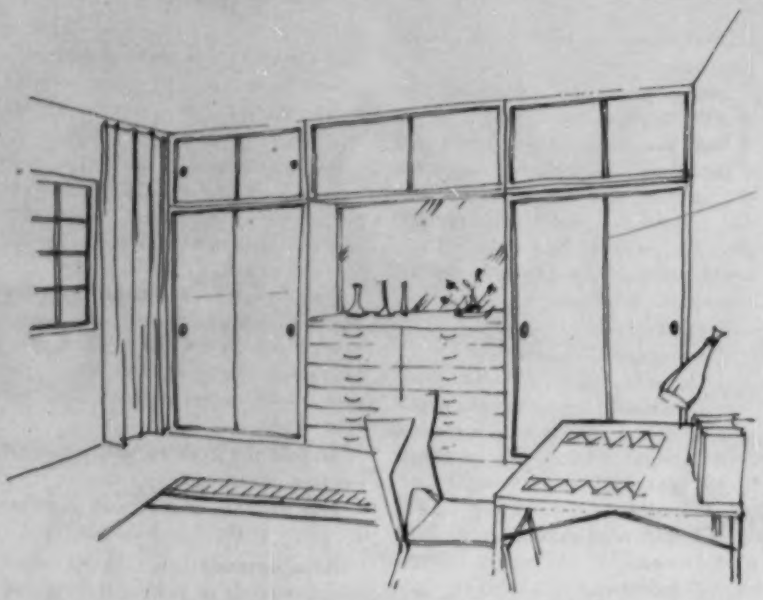

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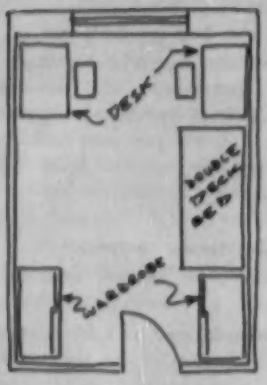

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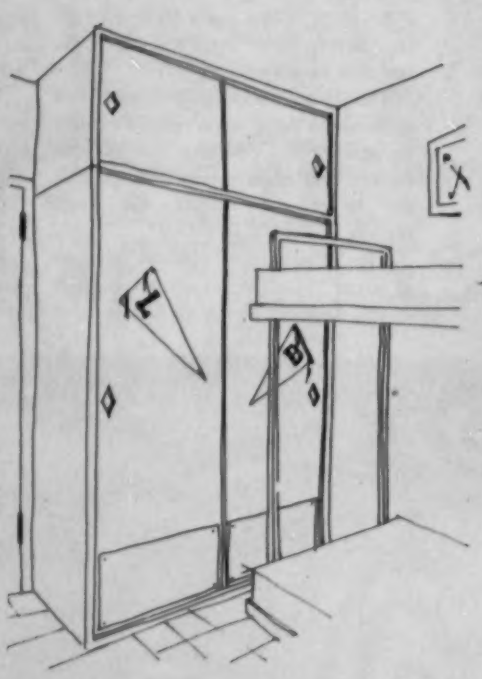

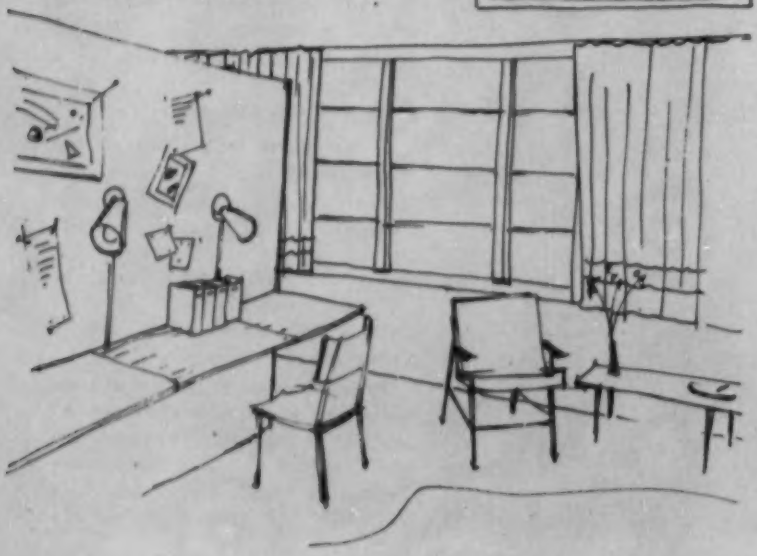

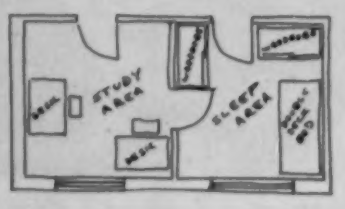

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The correct solution for a dresser design appears to be the simplest, yet the design of the dresser or chest is the most complex problem in the development of dormitory furniture.

Dressers should be two types: the traditional free standing dresser or chest, and the built-in version. The requirements for the built-ins are established in the various categories that follow and are summed up at the end of this section.

What should be the dresser size?

While there was a decided preference for 18 inch and 20 inch depths (32.3 and 29.0% respectively) there was no marked preference in heights; these varied from 36 to 54 inches. A width of 30 inches (23.5%) or 36 inches (17.6%) seemed to be the choice, although widths of from 18 to 72 inches were also selected.

At first glance, the figures seem to indicate that chests or dressers of conventional sizes would meet with acceptance. This is true only for the free standing dresser or chest but does not apply to drawer width in built-ins. In almost all the actual room plans studied where built-in furniture was used, the drawer width does not exceed 24 inches, and the 18 inch width is prevalent. There is a sound architectural reason for this, in addition to the advantages of economy and additional floor space. Frequently the modular design of space resulting from a built-in installation simply does not allow for a chest of greater width. Sketches 9, 10 and 11 show common conditions. The chest is usually combined with the wardrobe, as is shown in these illustrations.

Often the assigned total wall unit is about 48 inches wide (30 inches hanging space plus 18 inches chest space). Thus, two of these units against a corridor wall plus a 3 inch door result in a room 11 feet wide. To increase the chest width to 30 inches would add an extra foot to each unit, making the room 2 feet wider.

Sketch 5 shows another common arrangement with the wardrobe placed along the dividing wall. Here a 42 inch desk plus a 74 inch bed plus a 48 inch wardrobe unit result in a room almost 14 feet in length.

Thus much of the economy of space gained by built-in installations is lost when the dimension of 18 inches (or 24 inches) is exceeded, even though it may be humanly desirable.

The 24 inch width (or more) can work well when the chest-wardrobe units are built along a single wall, according to another common plan (Sketch 6). Other room arrangements are shown in Sketches 7 and 8.

Recommendation. Based on the foregoing facts, we feel that in built-in chests both the 18 inch and 24 inch widths are acceptable.

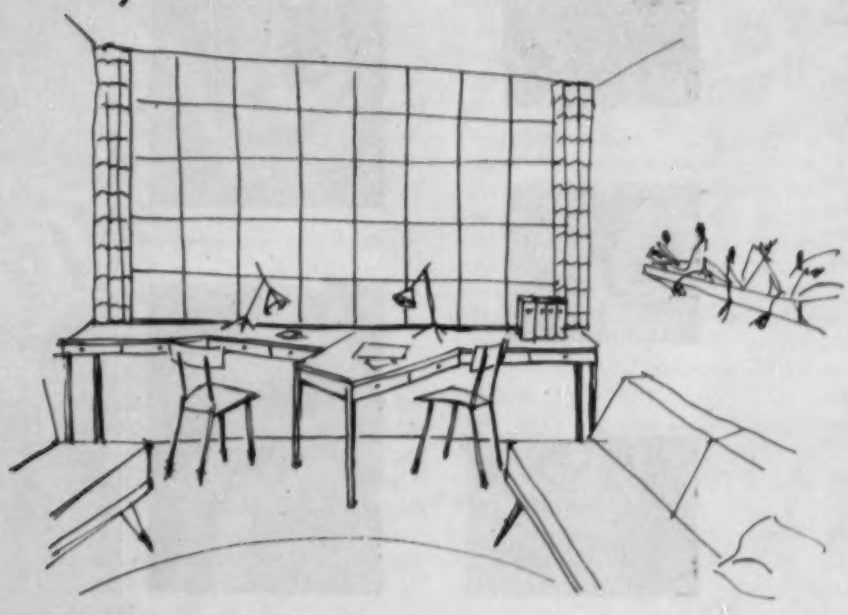
As a free standing chest can be placed with greater versatility in a room, we do not recommend altering the accepted standard width of 30 inches for this type of unit. Also, we found that the existing depth of 17½ inches and the drawer height of 6¼ inches is acceptable.

How many drawers should the chest have?

Given a choice of from six drawers to none, 34% preferred six; 31.9%, five; 17.2%, four; 12.7%, three, and 2.1%, two or no drawers.

Recommendation. The large number of requests for six drawers stems from the narrower widths of built-in chests and the need, in women's dormitories, for more shallow drawers. Frequently too, the fifth and sixth drawers are side by side on the top level. A divider in the top drawer of a conventional four-drawer or five-drawer free standing chest should satisfy this requirement. (*Cont. on p.* 38)

9



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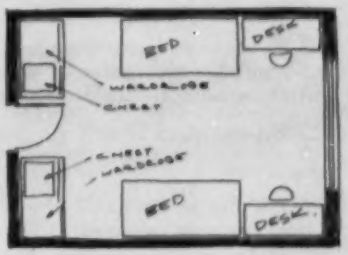
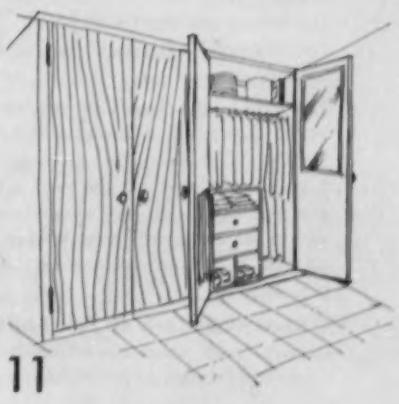




11

Should the dresser be built in or free standing?

Built in, 45.2%; free standing, 40.5%; conditional, 14.3%.

Percentage-wise, this would vary. Ohio State University figures show a 65 per cent preference for built-ins. If we add to our figures the various rooms described in periodicals, the 65 per cent preference would be exceeded. It is apparent that the trend to built-ins is on the increase.

Should the chest be combined with the desk?

Yes, 2.6%; no, 82.0%; conditional, 15.4%.

Recommendation. We do not believe this idea should be developed further. The only notable example of this desk-dresser combination was used by Architect Eero Saarinen in the new dormitories at Drake.

Should the chest be combined with the closet, shelving or trays being used?

Yes, 39.5%; no, 47.4%; conditional, 13.2%.

Considering the fact that this is a recent development, we were surprised to see the number of positive responses.

Recommendation. This type of unit should be one of the items offered in a new line. It is less expensive than is the dresser. Some colleges favor it as it avoids students' throwing the drawers in the back of the car and driving off rather than packing a suitcase.

Should a drawer of one size be interchangeable for all dressers and desks?

Yes, 8.8%; no, 64.7%; conditional, 26.5%.

While this is a practical idea from a manufacturing standpoint, residence hall conditions do not favor it. Several answers suggested two sizes, one for the dresser and one for the desk. Two responses said "Desirable," and one, "Would help."

Recommendation. The positive answers show such a diversity of sizes that we feel that the question can best be answered by checking actual practice in design and manufacture and by setting up the most economical size on a storage requirement basis per student.

Recommendations for built-in dresser and wardrobe. Sketch 12 shows the commonest variations that occur in the location of built-in chests and wardrobes. Often one side, either the left or right, is exposed to the room. Doors, too, can be similar panels either in a hinged frame or sliding. The drawers will be all steel.

Four units should be offered as shown in the sketch:

1. The built-in chest should be 18 or 24 inches wide. We believe that this unit alone will not be as popular as the combination chest and wardrobe.

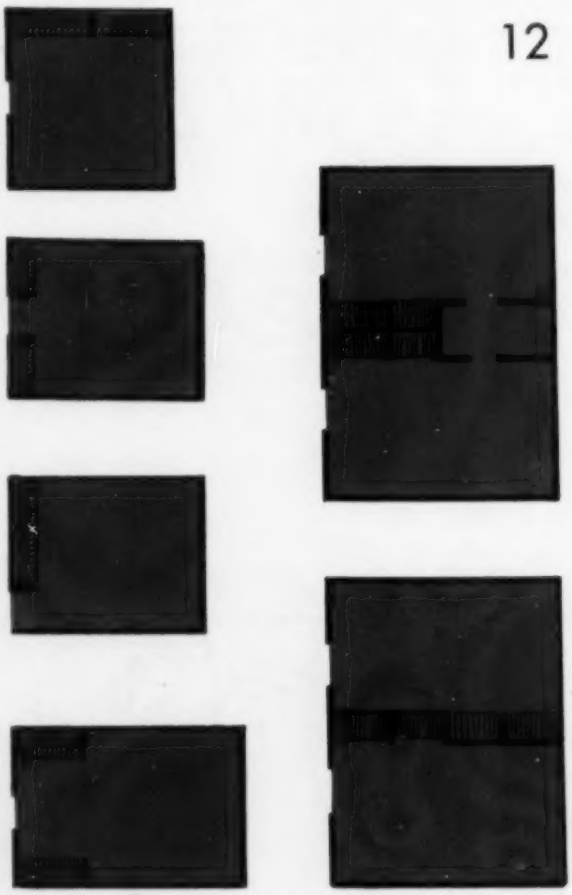
2. A combination chest and wardrobe as shown (48 inches wide, including 30 inches of hanging space and an 18 inch dresser, and a 60 inch wide unit containing 36 inches of hanging space and a 24 inch dresser). As the amount of hanging space was not specifically requested in the survey, the room plans sent us, as well as the periodical material, established these two dimensions as the most acceptable. It might be advisable to have a unit 54 inches wide that would allow for an 18 inch chest and 36 inches of hanging space, or a 24 inch dresser and 30 inches of hanging space.

3. A 45 inch sliding door unit with 18 inch shelves and a 30 inch hanging space. As this is the most economical unit, we think a larger size should not be introduced at this time. Almost all the units we examined were approximately 48 inches wide. Trays for this unit might be an accessory item.

4. Accessories including a mirror, a wet clothes locker, an overhead filler section.

The units would be bolted to the floor and wall. The base should be high enough to receive the standard size asphalt tile or rubber base molding. The unit can be left open on top for additional shelf space or can have either a structural filler above or accessory shelf space. We have made the height of the shelf unit so that the architect can have the ceiling height at this level (8 feet 6 inches) and finish off the unit with a simple molding strip.

12



General Storage, Wardrobe

Should provision be made separately for the hanging of wet towels, light laundry, and raincoats?

Yes, 78.6%; no, 21.4%.

Recommendation. The percentage of positive responses indicate that provision should be made for wet clothes.

If Yes, how?

A variety of ideas were presented. Opinion was divided equally between standard towel bars mounted on the wall or door and a need for a special area. In most cases a request was made for some cubicle (in the closet, behind the built-in dresser, for example). One request was made for radiation for drying.

Recommendation. A possible solution for handling this problem in the built-in dresser is shown in Sketch 13. There is a trend in some colleges to provide a separate laundry room in the dormitory. Four answers mentioned this.

Should storage be provided under the bed?

Yes, 15.2%; no, 66.6%; conditional, 18.2%.

One answer said, "As a last resort." This seems to sum up the general feeling. Study of room plans shows underbed storage in very small rooms; frequently the beds are built in. The heavy drawers make the bed harder to clean under and harder to move.

Recommendation. We do not believe there is a sufficient market for underbed drawers.

Would a storage ottoman be a desirable item?

Yes, 21.9%; no, 68.7%; conditional, 9.4%.

Our original thinking had been that a storage ottoman might provide an inexpensive extra seat. The survey response did not favor the idea.

What provision should be made for wastepaper?

We had thought there might be some market for an exceedingly well built wastebasket.

Recommendation. There were no indications of need for this item. For some reason, many replies went into details describing their incinerators.

Shelving

Should additional shelving be provided other than in the desk?

Yes, 89.5%; no, 2.6%; conditional, 7.9%.

Recommendation. The wardrobe mentioned would take care of this closet requirement, and the recommended desk-shelves component should be adaptable for the rest of the needs.

If Yes, how many and length of each?

There were a variety of answers, indicating that the amount of shelving is directly dependent on the amount of the budget.

Recommendation. We do not believe that another size of shelving (other than the two-size shelf component for the desk) is necessary as these can be combined to form any length or height (Sketch 2). We have not broken down the survey suggestions as they are much too varied.

Should these be adjustable, removable?

Adjustable: yes, 42.9%; no, 51.4%; conditional, 5.7%.

Removable: yes, 31.4%; no, 62.9%; conditional, 5.7%.

Recommendation. There is some demand for removable and adjustable shelves. As this would be costly, our first design objective would be to make the shelf unit as inexpensive as possible and upgrade the item; this, of course, if there were sufficient demand. Actually, the whole shelf unit would be bolted to the wall in some installations and could be removable for refinishing.

Should shelves be wood or metal?

Wood, 45.2%; metal, 19.0%; either, 19.0%; conditional, 14.3%; misc., 2.5%.

Recommendation. In our opinion, the most practical shelves would be a combination of metal and wood. The actual shelf would be wood with the frame of metal sheet or angles.

Is there any specific area to locate shelving that is more desirable?

Over desk, 59.0%; in closet, 15.4%; misc. (over bed, under window, etc.), 25.6%.

No answers indicated that the shelf unit we recommend would not work in all locations.

General Considerations

Do you specify furniture and furnishings? Materials? If not, who has this responsibility?

In most cases the questionnaires were filled in by the actual purchaser, who varied from a certified accountant to a professional housing adminstrator. Schools having active architectural schools frequently place buying responsibility with the dean or assistant dean of architecture.

(*Continued on Page 40*)

Chairs

Should the desk chair be of wood or metal, or metal frame with a wood seat?

Wood, 48.8%; metal, 22.0%; wood and metal, 14.6%; misc., 14.6%.

Of the 14.6 per cent voting for metal with a wood seat, several respondents added, "or all wood." There were answers that said "either," and "depends on other furniture." One said only "strong."

Recommendation. While the all-wood chair is a current preference, we believe the more serviceable chair would be the metal frame with wood seat and back. Actually this type of chair could be smaller and allow more student space in an admittedly small area. The chair would be much stronger. Visually, the large wood area of the seat and back make the chair appear to be predominantly wood. Also, the rising trend in the retail market to combine these two materials will have its effect on dormitory furniture.

Should chairs be partially upholstered?

Yes, 40%; no, 45%; conditional, 15%.

Recommendation. The chair should be designed so that it can be upholstered and so that upholstery can be removed as indicated.

If upholstery is used on any chair, should it be removable?

Yes, 77%; no, 20.5%; conditional, 2.5%.

Recommendation. This is a desirable feature but definitely an extra-cost one. It should be considered a trial item in competitive bidding.

Should a lounge chair be provided for each student?

Yes, 66.6%; no, 33.4%.

We were interested to find that many colleges provide lounge chairs. The two-per-room answers were often conditional: "If budget permits," "Nice."

Should the lounge chair be semi-upholstered or completely upholstered? Should the arms be upholstered?

The vote was almost unanimous for a semi-upholstered chair, the unupholstered portion being the arms.

Should arm caps be wood, metal or plastic?

Wood again is first choice: wood, 64.2%; metal, 7.1%; plastic, 10.6%; wood or plastic, 14.2%; plastic or metal, 3.9%.

Should soft goods or plastic coated fabrics be used for upholstering?

Soft goods, 8.8%; plastic, 67.7%; both, 17.7%; no, 5.8%.

An interesting sidelight appeared in those responses favoring plastic coated fabrics. There were many answers specifying "Naugahyde," which would indicate the name now is generic. A request was also made for a "breathable" plastic, an original Naugahyde term.

Recommendation. Both soft and plastic coated fabrics should be considered. Survey comment shows that lounge chairs are often used in public areas where soft goods is preferred.

Room Architecture

This section of the survey does not have much bearing on the actual design of the furniture. The primary purpose was to note changes from older residence halls and to gain general reactions to built-in pieces.

What should be the approximate square footage for a double room? For a single room?

While sizes varied, answers support the fact that increased building costs are requiring increasingly smaller rooms; thus built-in installations become more desirable regardless of the loan situation. One advantage of built-in installations is that they tend to make a smaller room look larger. This was commented on in *Progressive Architecture* for July 1955.

Do you prefer window walls or individual windows?

The trend to window walls in other types of architecture is not a preference for dormitories. The reason appears to be more practical than esthetic: Draperies or blinds for a whole wall cost more.

Are there major differences between your room layouts for women's and men's dormitories?

No information was gained here. Most responses said "no." The few that said "yes" did not elaborate.

Should the room allow for freedom of individual arrangements?

Consensus was that the students not only want to arrange and decorate their rooms but that their creative faculties are furthered by their doing decorating of this type.

In the more modern dormitories, which are the pace setters for the future, however, the rooms are so completely and well decorated that there is not the individual incentive for furniture arrangement that there was in the past. While this may not be ideal from a psychological standpoint, smaller rooms and built-in furniture are making a one-arrangement room a necessity.

Should the décor be contemporary or traditional?

Contemporary, 95%; traditional, 5%.

Have you found particular locations more desirable for individual pieces of furniture?

Preferences are for desks by the window. A great many installations call for the built-in wardrobe and dresser on the corridor wall.

In general, should the major pieces be free standing or built in?

Free standing, 42%; built in, 52%; either, 4%; depends, 2%.

If so, what pieces?

Isolated cases called for complete built-in installations, but the major preference is limited to the dresser and wardrobe.

In building this field house

The Method Is New

RICHARD S. CONNOLLY
Design Engineer, Blaw-Knox Company, Pittsburgh

ONE OF THE WORLD'S LARGEST CLASS-rooms was completed recently on the campus of the University of Wisconsin at Madison. More unusual than its size or design, however, is the relatively unique method of construction employed by the contractors to build this athletic department facility.

The structure, enclosing an inside practice field 400 feet long by 200 feet wide, is the Camp Randall Memorial Building. Its side walls and arch roof are constructed entirely of reinforced concrete. The building is 15 feet high at the side walls and measures 68 feet from the crown of the arch to the dirt floor below. There are no supporting columns or trusses for the thin concrete shell and rib beams which roof over 80,000 square feet of floor area in this barrel vault section of the building.

University officials, investigating the problems connected with constructing a fully enclosed building large enough to accommodate, for example, a game of football, or an R.O.T.C. battalion formation, or handball and basketball, and still have plenty of room to spare, realized that such a building would have to be both wide and long and free from central supports.

In order to determine the most suitable method of construction for this long-span, high vaulted roof area, detailed estimates were made on the cost of six different types of construction employing timber, steel or reinforced concrete. Types of construction investigated were wood laminated arches, wood bowstring trusses, wood arch trusses, steel arch trusses, steel rolled beam arches, and thin shell reinforced concrete arches.

It was concluded that an acceptable design in timber construction would be about the same in first cost as structural steel, while maintenance costs, depreciation and insurance would be much higher. The most economical and satisfactory steel construction for the purpose would consist of long-span arches built up of rolled beams, and this type of exposed steel, if fireproofed, would be much higher in cost than reinforced concrete thin shell arch construction. The indicated differential in first cost between concrete shell and a framed steel structure might be about 2 per cent of the total cost of the building, but the maintenance cost would be lower than that of steel.

The use of concrete also eliminates fire hazard and improves the appear-

Concrete is being discharged into a hopper on traveling work platform for distribution by buggies, which are used to place the mix. A duplicate of this rig is on the opposite side of the arch.

ance of the interior of the building, presenting a clean, smooth ceiling free of trussing and bracing with greater possibilities for more effective and economical lighting. Bids were subsequently requested on a field house to be built employing the thin shell type of long-span concrete arch.

It then became the general contractor's problem to devise the means for forming the arch to assure full compliance with the theoretical design and close specification tolerances that established ¼ inch (plus or minus) as maximum permissible variance from the theoretical axis of this 3 inch shell type arch span. Several types of centering were studied—wood arch, wood post, steel post, tubular steel scaffold, and steel arch falsework to be supported on heavy timber cribbing. Each was carefully checked for use as support for the thin shell concrete and arched ribs, and it was found that the type of falsework most certain to meet the requirements of the specifications and to suit the workability required by the contractor was the steel truss arch type.

SIMILAR TO BRIDGE CENTERING

While the falsework designed for the field house turned out to be quite similar to concrete bridge centering, some unique problems involved in thin shell construction had to be resolved. In contrast with bridge centering where an arch beam is cast in place with a load carrying factor invariably many times its own weight, the field house problem was complicated. The thin shell roof was to span a distance of 200 feet from spring line to spring line and was to be 400 feet long. Both stripping and moving the form became primary design factors requiring close control of the falsework at all times.

Even though the initial cost of steel arch falsework might be somewhat more expensive than other types of wood and steel support, mobility of the falsework and forms, as well as precise control of steel arch centering, could readily compensate in time and trouble for this additional cost. At the same time, the construction hazards encountered in this type of work would be greatly reduced.

Structural steel falsework for the roof arch was designed to be reused seven times. The horizontal span of the falsework is 200 feet, and the depth of this traveling form unit is 57 feet 4 inches. This section comprises one full rib and two half ribs connected by a 3 inch thick shell of concrete to form a 57 foot 4 inch section of the building's total 400 foot length. The ribs are on 28 foot 8 inch centers, and the 57 foot 4 inch section is poured as an integral unit starting at each spring line and working toward a joining at the crown of the arch.

Centering consists in basic design of three continuous 8 foot deep welded arch trusses, one truss to support each of three heavily reinforced concrete ribs, which are formed in a single pour along with the 3 inch thickness of reinforced thin shell. The heels of the arched trusses are supported on each side by a pair of 15 inch channels spaced 3 feet apart and laced together. Each pair of channels in turn is supported by six worm gear jacks, two jacks under each heel point. Each steel arch truss is further supported by two steel columns located at third points of the arch and supported by jacks.

To serve as soil bearing foundation support for this steel column and arched truss framing, 12 heavy timber cribs are placed on the compacted clay subgrade at all structural steel column and steel arch heel locations. The load on these cribs varies from 100,000 to 240,000 pounds, and requires from 70 to 160 square feet bearing area, since soil bearing values available in this filled area are less than 1500 pounds per square foot.

INTERMEDIATE COLUMNS NECESSARY

Unlike ordinary tied arch bridge centering designs where intermediate columns are not usually required, in this case they were considered necessary in order to support properly and to control accurately elevations at all levels of the thin shell arch concrete and to comply with a previously established sequence for stripping the forms.

However, in moving the falsework, the intermediate columns are not required to support the load of the formwork. It was considered much more economical to convert the falsework to a tied arch for moving purposes only, thereby eliminating additional sets of steel rail track otherwise required for the central columns.

When pouring, the central columns are supported by jacks, each of the steel arches being thus converted into three simple beams. The cross ties on the centering are loose, so that the load is carried by the six center columns and six outside points of support. After the concrete has hardened and the centering is lowered to a point where the arch concrete is carrying its own weight, the falsework is converted to a tied arch supported at the heels with the central columns suspended from the falsework.

This one feature alone has saved both time and money for the contractor. Had it been necessary to lay four or six sets of heavy steel rails and supporting ties rather than two sets of rails to carry the 200 tons of centering while the form was being moved, labor and material costs for track construction would have more than doubled.

OTHER FEATURES EXPLAINED

Other design features contributing to the efficiency of the steel arch falsework can best be explained in connection with decentering procedures. In order to create the arch action, it is necessary when stripping the centering to throw the concrete into compression. This is done by carefully controlled lowering of the worm gear jacks in predetermined amounts at each of the central supports until the jacks begin to unload. As this happens, the crown curve of the concrete arch and steel falsework flatten together, and the concrete arch is thrown into compression. The arch deflection at decentering is due almost entirely to rib shortening, the dead load moments being quite small, and the resulting deflections vary from zero at the buttresses to a maximum at the crown, and all are downward. Without the central steel column falsework supports, other more expensive and less certain means of control would have been required in order to place the concrete arch in sequential compression.

To complete description of the form work, decking consists of ¾ inch plywood supported by 2 by 12 joists laid parallel to the longitudinal axis of the building. The joists are supported at 10 foot intervals by heavy timbers previously cut to the contour of the concrete arch soffit. These contoured timbers are bolted directly to the steel centering stringers.

The concrete arch ribs in this design project 11½ inches below the underside of the thin shell concrete roof deck that spans between the ribs. The soffits or bottoms of the rib beams also are formed with ¾ inch plywood fastened directly to the top edges of three contoured 2 by 12 timbers, which are supported directly at the panel points of the main centering trusses. The full rib cross section measures

These winches and two more not shown in the picture are mounted at the crown of the arch to pull the screed and finishing platform up the sides of the arch. Work progressed simultaneously from each of the spring lines to the crown of the arch.

20 by 46 inches at the spring line, tapering to 20 by 30 inches at the crown.

To compensate for vertical and longitudinal action of the roof, a ¾ inch fibrous material is inserted between the half-rib of one pour and the half-rib of the next. This material provides for: (1) deflections of the arch and centering during the pour; (2) further deflections of the arch as the forms are stripped; (3) continued deflection until the concrete arch has attained final strength, and (4) deflections resulting from temperature change.

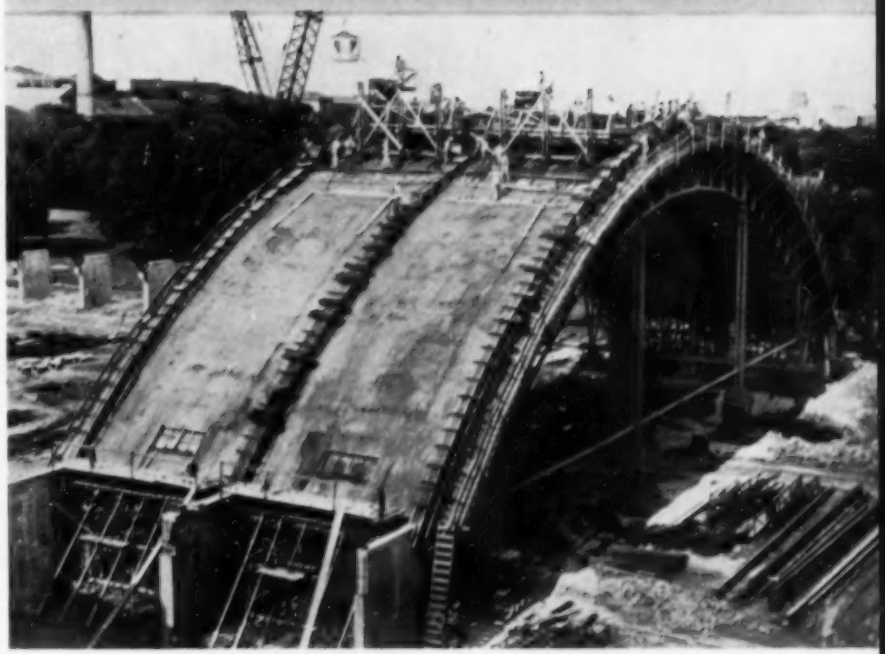
Actual construction of footings and foundations of the building began late in 1954. Heavy grading work was started by moving some 25,000 yards of dirt. A 6 foot cut was required at the north end of the site and a 6 foot fill at the south.

Each buttress rests on a continuous main pad 7 feet wide by 3 feet deep, which is sloped 18 inches in 7 feet to carry the horizontal component from the arch thrust, and on a smaller 3 by 3 foot continuous pad at the inside face of the buttress.

A total of 3500 cubic yards of concrete was used in the buttresses and pads. A single pour formed each foundation footing unit and an additional pour was made for each buttress. The foundations and buttresses were reinforced with 250 tons of reinforcing steel. The shell roof, rib and edge beams are reinforced with 210 tons of steel.

With the 15 buttresses on each side in place, a crew of 10 ironworkers with two cranes erected the 150 tons of steel falsework in approximately 25 working days. Wood lagging and decking and beam sides were then placed, which included one carload of plywood and two carloads of dimensional lum-

Placing, vibrating, screeding and finishing are going on here.



This picture, taken just before the completion of the first pour, shows the arrangement of platforms working up each side of the arch to the crown. Concrete was delivered to the arch by two cranes, handling 1 yard buckets.

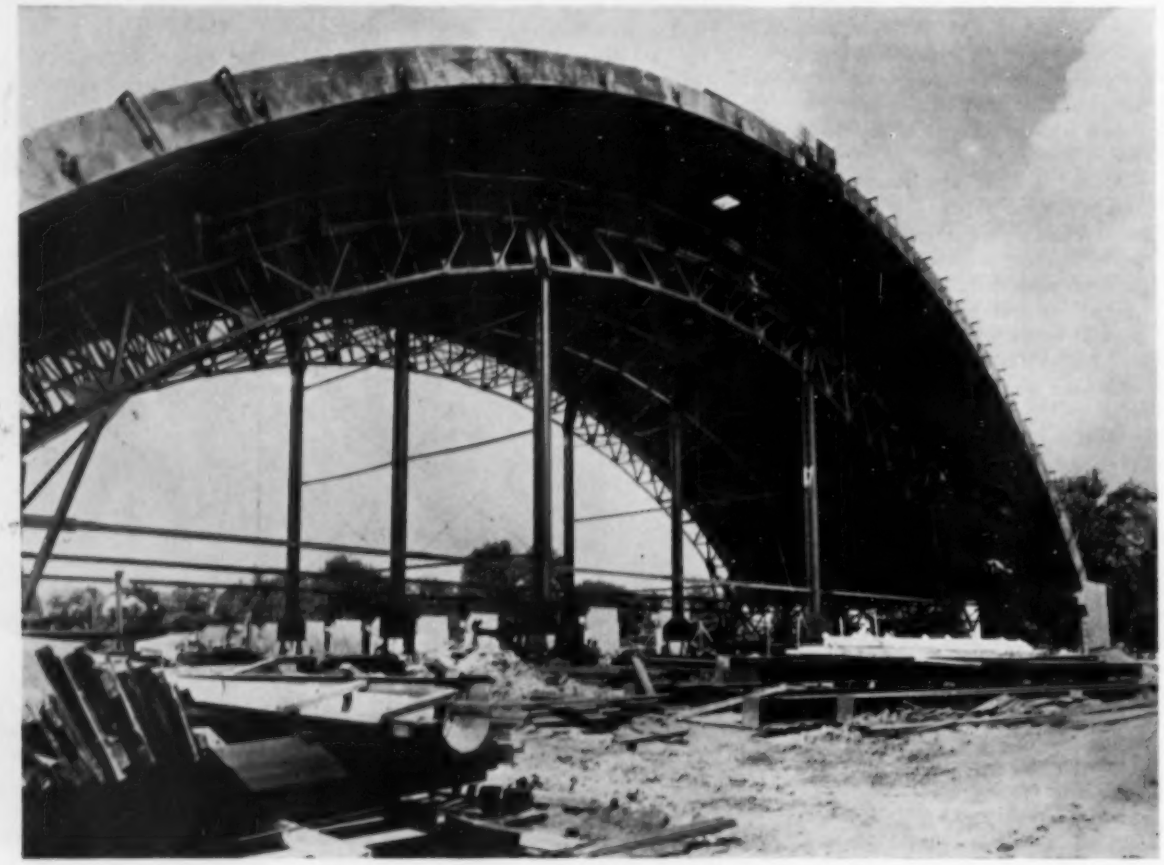
Prior to decentering, workmen remove wedges so that the worm gear jacks can be lowered. The wedges were used for jumping the jacks and as a precautionary measure, just in case a jack should fail. The large area of cribbing was necessary because maximum soil bearing pressure is 1500 lbs. per square foot.

ber, erected in 30 working days by 10 carpenters and two carpenter foremen.

With the forms and falsework in place, form oil was applied, reinforcing placed, inserts for walkways, ventilation and lighting were set, and pouring began. For concreting up these roof slopes from spring line to top of arch, special adjustable-pitch traveling platform equipment was designed so that pouring crews and finishers could perform their work.

Two pairs of platforms were constructed with each pair carrying a 1 cubic yard radial gate type of floor hopper suitable for discharging concrete into rubber tired buggies that distributed concrete across the 5 foot 4 inch width of the pour. These platforms were split in the center and elevated to such a height that planking could be laid from one to the other over the top of the center rib beam. Adjustable hinged legs on the platform undercarriage permitted variations in height of the outer edge of the working deck so that platforms would remain level as they traveled from spring line to crown of arch.

These platforms were pulled toward the crown by eight large winches,



Below: The first bay of the field house has been poured and the form and falsework decentered. Two winches have moved the centering forward approximately 10 feet. Cribbing (foreground) is being placed to receive jacks to support falsework and forms during pouring of the second bay.

driven by electric motor, mounted in tandem and located at four points along each side of the center line of the roof crown. So that the platforms would remain horizontal, the winches hoisting one platform were controlled through a single switch. Each set of switches was mounted on its respective platform to facilitate close control by the concrete foreman and to minimize hoisting hazards inherent in suspended scaffold units, from which all concrete placement and finishing were handled.

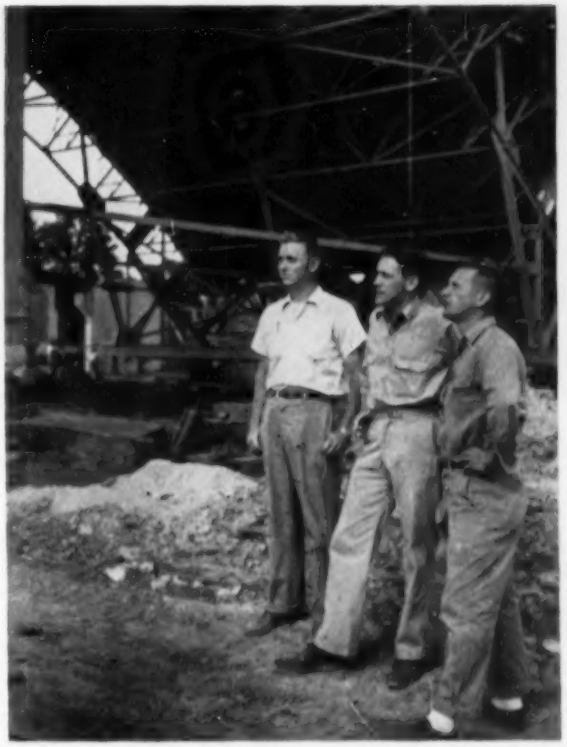
Connected by two cables behind each platform is a 4 foot wide screed, extending the full width of the deck span between ribs; this serves as a strike-off unit and maintains the 3 inch concrete deck thickness. Behind the screeds was another set of platforms also suspended by cables from which cement finishers could perform their hand float work.

The first pour required a longer time for shakedown of equipment and men, but the following six pours, of 240 yards each, required about 14 hours each.

Concrete was delivered to the job in 5 and 6 yard agitator trucks and was dumped from the trucks into 1 yard buckets located on either side of the arch. A 35 ton capacity crane with 100 foot boom and 20 foot jib and a 32 ton capacity truck crane swung the buckets over the concrete floor hoppers mounted on the traveling platforms.

Concrete for the arch was a 6½ bag mix designed to exceed a minimum cylinder compression test of 3750 pounds per square inch in 28 days. The first pour was started with approximately 2½ inch slump, which was limited to a maximum of 3½ inches to increase its workability. The compressive strength of the concrete must exceed 2500 pounds psi, with a modulus of elasticity of 2 million before decentering. This was reached on the first pour in five days.

As previously mentioned, the falsework load is eased on the six intermediate columns first, deflecting both the falsework and the arch, gradually throwing the arch rib concrete into compression. Decentering is systematically accomplished through the falsework being lowered from ⅛ to ¼ inch at a time. Stripping action begins near the haunches with the crown third of the arch stripping last. Once the falsework is stripped, cross ties are tightened and the falsework is then



Roy Chambers, superintendent on the job; Richard S. Connolly, design engineer, and Robert Hiland, engineer's representative on the job, are talking it over after completing the first decentering.

Following decentering, two of the winches used to pull the concreting platforms up the crown during the pour were reset on the ground and used to move the forms forward on the two sets of previously laid tracks. The 200 tons of centering were carried by four-wheeled trucks swivel-attached near each of the four corners of the centering. (See below.)

Exterior view of Camp Randall Memorial Building on the campus of the University of Wisconsin. The building is 200 feet wide and 400 feet long.

converted to a tied arch for moving. A total of 24 jacks, with 14 inch travel, was used to support the six intermediate columns essential to close control of stripping. Decentering distance is 20 inches, which required two lowering operations for each jack. To guard against possible slippage of the jacks and to permit jumping, heavy oak wedges were carefully maintained directly under each of the 12 points of support.

The 75 ton jacks were used to support the columns and channel under the full concrete rib. Fifty ton jacks were sufficient to support the two half-rib concrete sections. This required 16 jacks with 50 ton capacity and eight with 75 ton.

Following decentering, two of the winches used to pull the concreting platforms up the crown during the pour were reset on the ground and used to move the forms forward on the two sets of previously laid tracks. The 200 tons of centering were carried by four - wheeled trucks swivel - attached near each of the four corners of the centering. These trucks can be swiveled 90 degrees.

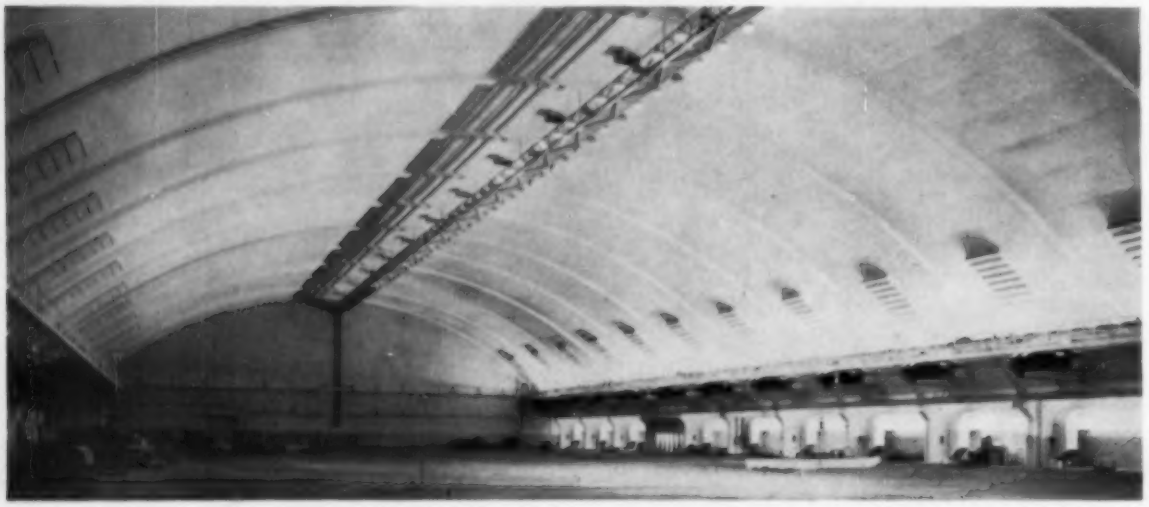
A 3 foot steel framed catwalk, suspended some 6 feet below the trailing edge of the centering, provided a platform from which cement finishers could patch any irregularities on the bottom side of the arch, as the centering was moved forward in about 5 foot stages.

The over-all time required on the average to decenter the falsework, move it forward, reset the timber cribbing, jacks and wedges is about 12 hours.

The interior of the $1½ million building has a dirt floor, with space for a 220 yard track, basketball court, and many other athletic facilities.

The ends of the building are enclosed with steel curtain wall framing, with a specially formed pattern of aluminum siding on the exterior surfaces. Interior surfaces of these end walls are built of aluminum perforated acoustical panels with a 1½ inch thick board of fiber glass insulation backing it. The reinforced concrete framed bays along each side of the building are approximately 18 feet high and are trimmed with random ashlar masonry to match the exterior walls of the university's football stadium, to which the field house is connected by an enclosed corridor. The roof was built up by applying 2 by 4 nailing strips to the concrete shell on the day after the arch was poured, placing ¾ inch insulation between the nailing strips, and finishing with five plies of felt. The last felt ply has a mineral surface.

General contractor for Camp Randall Memorial was the J. L. Simmons Company, Inc., of Chicago. Ammann & Whitney were the engineers; Fitzhugh Scott-Fitzhugh Scott Jr. were the associate architects.

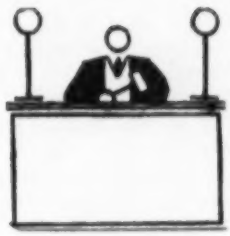


There are no supporting columns or trusses for the thin concrete shell and rib beams which roof over 80,000 square feet of floor area in this section.

Desegregation and Higher Education

Part 1

T. E. BLACKWELL
Vice Chancellor and Treasurer
Washington University, St. Louis



IT IS TIME FOR US TO TAKE ANOTHER look at the progress made by the South toward the goal of desegregation in higher education since the precedent shattering decision[1] of the Supreme Court of the United States was announced on May 17, 1954.

Upon the termination of the so-called "carpetbagger" regimes, which followed in the wake of military conquest and occupation of the states of the Southern Confederacy after the end of the Civil War, the people of the South re-enacted legislation requiring rigid segregation of the Negro and white races in educational institutions, theaters, hotels and public service facilities. Until declared unconstitutional by the U.S. Supreme Court in 1954, such statutes were enforced in 17 states[2] and in the District of Columbia. Segregation was optional in four more states.[3]

DEPRIVED OF "EQUAL PROTECTION"

At first, the federal courts were inclined to hold that segregation deprived a citizen of his "equal protection of the laws" guaranteed to him by the Fourteenth Amendment to the federal Constitution. In 1873, the U.S. Supreme Court ruled[4] that Catherine Brown, a Negro woman ejected from a railroad car reserved by the members of the white race, had been unlawfully deprived of her rights as a citizen, even though the car reserved for the use of Negroes was equal, in every respect, to those for members of the white race.

However, the famous "separate but equal" doctrine was accepted by the high court in 1899 in the case of Homer Plessy,[5] also ejected from a railroad car reserved for white persons.

In that same year the United States Supreme Court held[6] that public school authorities may even suspend, temporarily, the operation of a Negro high school for reasons of economy while supporting a high school for white children. Justice Harland, in delivering the opinion of the unanimous court, had this to say:

"While all admit that the benefits and burdens of public taxation must be shared by citizens without discrimination against any class on account of their race, the education of the people in the schools maintained by state taxation is a matter belonging to the respective states, and any interference on the part of federal authority with the management of such schools cannot be justified, except in the case of a clear and unmistakable disregard of rights secured by the supreme law of the land."

SUPREME LAW FOR 50 YEARS

Segregation and the "separate but equal" doctrine continued to be the supreme law of the land for over half a century. In 1908 the high federal court upheld[7] a Kentucky statute that prohibited even endowed, privately controlled colleges and universities from giving instruction to classes composed of both white and Negro students.

Gradually the yardstick, with which the equality of the separate educational facilities offered to students of the Negro race was measured, was applied with greater precision. For instance, in 1938 the U.S. Supreme Court declared[8] that equal opportunity for a legal education must be provided by a state for its Negro citizens within its own borders. Missouri could not, by offering to pay the tuition of qualified Negro students at law schools outside the state, fulfill its constitutional obligation to afford equal educational facilities for all its citizens.

By 1950 the U.S. Supreme Court, although continuing to pay lip service to the "separate but equal" doctrine, had abandoned it for all practical purposes. An examination of the opinion in the Sweatt case[9] will show that it would have been physically impossible for the state of Texas to have made its law school for Negroes comply with the standard of equality therein defined, no matter how much money it had been willing to appropriate.

Here is the yardstick adopted by the court:

"Moreover, although the law is a highly learned profession, we are well aware that it is an intensely practical one. The law school, the proving ground for legal learning and practice, cannot be effective in isolation from the individuals and institutions with which the law interacts. Few students and no one who has practiced law would choose to study in an academic vacuum, removed from the interplay of ideas and the exchange of views with which the law is concerned. The law school to which Texas is willing to admit petitioner excludes from its student body members of the racial groups which number 85 per cent of the population of the state and in-

[1] Brown *v.* Board of Education of Topeka, 347 U.S. 483 (1954).

[2] Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, Missouri, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia and West Virginia.

[3] Arizona, Kansas, New Mexico and Wyoming.

[4] Washington, A. & G. R. R. *v.* Brown, 17 Wall. 445 (1873).

[5] Plessy *v.* Ferguson, 163 U.S. 537 (1899).

[6] Cumming *v.* County Board of Education, 175 U.S. 528 (1899).

[7] Berea College *v.* Commonwealth of Kentucky, 211 U.S. 45 (1908).

[8] Missouri ex rel Gaines *v.* Canada, 305 U.S. 377 (1938).

[9] Sweatt *v.* Painter, 339 U.S. 629 (1950).

clude most of the lawyers, witnesses, jurors, judges and other officials with whom petitioner will inevitably be dealing when he becomes a member of the Texas bar. With such a substantial and significant segment of society excluded, we cannot conclude that the education offered petitioner is substantially equal to that which he would receive if admitted to the University of Texas Law School."

The final blow to the "separate but equal" doctrine was delivered by the court in the historic case of Brown *v.* Board of Education of Topeka.[1] Negro parents, conceding the physical equality of the separate schools provided by the local board of education, charged that segregation was, itself, socially and psychologically injurious to young children and hence a denial of their constitutional right to "equal protection of the laws."

FEDERAL COURT JUDGES AGREE

The judges of the high federal court agreed that this contention was "amply supported by modern authority." The following is from the opinion of the court:

"We conclude that, in the field of public education, the doctrine of 'separate but equal' has no place. Separate educational facilities are inherently unequal."

However, the court recognized the fact that full implementation of this new policy, in all areas of the South and at all levels of public education, would probably take time. It ordered the lower federal courts to be guided by the traditional doctrine of equity that, in the past, had succeeded in reconciling public and private rights. The somewhat ambiguous term "all deliberate speed" was the key phrase in the policy of moderation.

The first case involving higher education to reach the Supreme Court of the United States after the promulgation of its new policy of requiring integration "with all deliberate speed" was that of Autherine J. Lucy, a young Negro woman graduate of Miles College in Birmingham, Ala.

In my next article in this series I shall summarize the history of her attempt to obtain an education in library science at the University of Alabama, the worldwide publicity resulting from this attempt, and three recent decisions of the United States Supreme Court on the subject of desegregation.

(*Part 2 Will Appear Next Month*)

Continuing a series on finance

by JOHN DALE RUSSELL and JAMES I. DOI

Board of Educational Finance, State of New Mexico

Analysis of expenditures for

INSTRUCTION

Part 3

THE EFFECTIVE USE OF FUNDS AVAILable for instructional salaries can be measured by two kinds of data: (1) those that show distribution of salaries among the faculty, and (2) those that pertain to the productiveness of the faculty and the economy of the instructional programs.

The first kind of data is found frequently in the literature on higher education and is familiar to virtually all college and university administrators. The second kind of data includes such measures as student-credit-hour production per faculty member and expenditures for instructional salaries per student-credit-hour. Analyses that yield both these types of data are necessary in any comprehensive study of effective expenditure of funds for instructional salaries.

From the point of view of a comprehensive analysis of institutional operations, faculty salaries have two important characteristics: average and range. These two salary characteristics have direct bearing on the success of the institution in attracting and holding competent faculty members. The significance of a high average faculty salary to the well-being of an institution is recognized by virtually all college and university administrators, but recognition of the importance of a wide range in salaries among the academic ranks and within each rank is not as universal. In two institutions with the same average faculty salary, all other factors being equal, the one with the greater range in salaries is likely to have the better staff. Competent young faculty members frequently will be attracted to and elect to remain with an institution at a lower salary than they might receive elsewhere, if prospects for high salaries are good with academic advancement.

Table 4 shows the faculty salaries for 1955-56 for two state institutions of higher education. The data reflect two divergent faculty salary practices, though the average (mean) salary for all ranks combined is about the same at each institution. Institution "A" maintains a reasonably wide range in salaries within each rank and allows for overlapping between two adjacent ranks. Institution "B" follows the practice of a uniform salary for all members of a given academic rank, with only occasional exceptions; professors who are department heads receive a slightly higher salary than those who are not, and, at the rank of assistant professor, some deviations from the salary schedule occur as the result of "salary adjustments." On the whole, institution "B" makes no attempt to recognize differences in individual merit, except by means of promotion in rank, or to encourage the most capable into greater effort through salary inducements. Great significance attaches to the fact that the top salaries at every rank are higher in institution "A" than in institution "B." It is these top salaries that attract and retain first class faculty members.

We are firmly convinced that, over a period of years, the salary policy followed in institution "A" will permit the attraction and retention of a much more capable faculty than the policy of institution "B," assuming that each has the same amount per faculty member for salaries. In fact, institution "A" might well be encouraged to increase the range of its

Table 4—Faculty Salaries for 1955-56 for Two State Institutions of Higher Education, Nine-Months Basis*

Institution		Professors	Associate Professors	Assistant Professors	Instructors	For All Ranks
"A"	High	$8800	$6500	$5900	$4400	$8800
	Low	6000	5250	4000	3600	3600
	Mean	7125	5773	5025	3985	5772
	Number at rank	69	45	70	23	207
"B"	High	$7500	$6228	$5664	$4368	$7500
	Low	7272	6228	4740	4368	4368
	Mean	7351	6228	5137	4368	5784
	Number at rank	26	15	36	17	94

*Includes only faculty members who devote full time to instruction.

Table 5—Increases in Faculty Salaries Between 1954-55 and 1955-56, for Regular Academic Year for Six State Institutions of Higher Education*

Institution	Number of Reductions in Salary	Number No Change	Increases in Salary			Range in Salary Increases, Excluding Raises Accompanying Promotions in Rank			
						Amount		Per Cent	
			Number	Total Amount	Average Increase	Low	High	Low	High
"A"	0	5	162	$47,120	$291	$ 0	$500	0	10.3
"B"	0	0	81	54,067	667	396	708	11.0	11.0
"C"	0	5	39	13,155	337	0	625	0	15.2
"D"	0	0	19	12,287	647	400	1,071	7.1	21.4
"E"	0	0	41	37,780	921	300	1,600	6.4	38.9
"F"	0	0	14	4,616	330	113	350	1.9	6.9
For Six Institutions Combined	0	10	356	$169,025	$475	$ 0	$1,600	0	38.9

*Includes only those who were on full-time service in 1954-55 and are to be on full-time service in 1955-56.

Table 6—Academic Ranks of Faculty Members of Six State Institutions of Higher Education*

Institution	Year	No. of Faculty Members	Percentages of Each Rank			
			Professor	Associate Professor	Assistant Professor	Instructor
"A"	1952-53	190	27.4	26.3	33.7	12.6
	1955-56	234	35.9	20.1	32.5	11.5
"B"	1952-53	157	28.0	14.0	30.6	27.4
	1955-56	167	28.7	13.8	39.5	18.0
"C"	1952-53	58	29.3	—	—	70.7
	1955-56	59	23.7	27.1	42.4	6.8
"D"	1952-53	38	18.4	71.1	7.9	2.6
	1955-56	40	12.5	70.0	7.5	10.0
"E"	1952-53	54	14.8	27.8	24.1	33.3
	1955-56	65	12.3	32.3	41.5	13.9
"F"	1952-53	16	18.8	25.0	50.0	6.2
	1955-56	19	26.3	42.1	26.3	5.3
All Institutions Combined	1952-53	513	25.5	23.8	25.7	25.0
	1955-56	584	28.1	24.5	34.6	12.8

*Includes all persons with academic rank, whether part-time or full-time member of teaching staff.

salaries, particularly at the upper levels. One nationally recognized institution recently visited maintains a ratio of about 4 to 1 between its highest and lowest faculty salary, or a range from about $4000 for the lowest salaried instructor to about $16,000 as the top for a professor.

There is no standard to guide an institution in determining how wide a range in salaries within and among ranks results in the most effective use of funds, but over a period of years experience has shown that such a range is necessary if an institution is not to sink into mediocrity. To reward all faculty members of a given rank alike or nearly alike, without respect to their individual merit, serves to discourage the competent and to encourage the incompetent and the mediocre to remain with the institution. The test of a capable administrator is his ability to distinguish the competent faculty members from the not-so-competent and to reward each accordingly. There is, admittedly, no infallible method for making such identification; if there were, there would be less need for good administrators.

Occasionally institutional authorities may give all faculty members a salary increase, irrespective of merit, as a cost-of-living increase. Even in this situation an institution would profit by denying an incompetent faculty member a raise, as a polite notice that his services are no longer needed.

The data in Table 5 reflect the way in which each of six New Mexico state institutions handled faculty salary increases for 1955-56. In a year in which some fairly large salary increases were being made, at least two institutions decided not to give all faculty members a raise. Reduction in salary is apparently not a popular device, at least among this group of institutions, for obtaining resignations or for encouraging individual faculty members to improve their performance.

Five of the six institutions attempted to give salary increases on the basis of merit. Institution "B," the lone exception, gave all faculty members an 11 per cent increase in keeping with its policy of uniform salaries at each rank. Neither the institution nor the state gains much from this kind of salary increase. It creates no incentive for greater individual effort. The same faculty members generally continue to do just as they have been doing, and the money supplied for the salary increase brings little or no additional or improved service to the constituency and students.

Closely related to the question of salaries is that of academic rank. Table 6 shows the staffing pattern of six state institutions of higher education for

1952-53 and 1955-56. The data show that no one pattern fits all the institutions, and even in the relatively short period of four years wide variations occur within a single institution in the percentages at each rank. In 1952-53 institution "C," for example, used only two ranks: "professor" and "instructor."

This organizational pattern, while it is not to be recommended, is not unusual in small institutions. By 1955-56 institution "C" had reclassified its faculty into four academic ranks, which is the more conventional pattern.

In contrast to the others, institution "D" accords the rank of "associate professor" to more than two-thirds of its faculty, and more than 80 per cent of its faculty are in the upper two ranks. Its faculty is no more outstanding than those of the other institutions from the standpoint of training or experience or scholarly maturity. Under the circumstances, it must be concluded that at institution "D" academic rank is much easier to obtain than in the faculties of the other five institutions.

Because of these variations among the institutions in according academic rank to their faculties, the New Mexico Board of Educational Finance makes no attempt to suggest an average salary for any given rank. In determining the legislative appropriations to be recommended for each of the institutions, it concerns itself, in the main, with (1) the total number of faculty members needed and (2) the average salary for the entire faculty. The distribution among the academic ranks of total salary funds, as thus determined, is left completely to the discretion of the institutions. The institutions, however, are advised to avoid promotion in rank as a substitute for salary increase. Academic rank should be used as a symbol of academic maturity and prestige, to indicate the relative stature of the person in the community of scholars, not as a substitute for an adequate salary.

Occasionally the question arises as to whether or not there is an ideal staffing pattern. If there is such a pattern, it would probably be for an institution to have all "full professors." This would mean an entire faculty composed of exceptionally competent scholars, each with excellent training, many years of successful experience in teaching and research, and of high repute in the academic community. Unfortunately a faculty organization of this ideal type, within any reasonable concept of the qualifications of a "full professor," is not practicable. At best, only a handful of the wealthiest institutions could afford to support such a collection of scholars. As a practical guide, we generally advocate for a degree-granting college a staffing pattern with a nearly equal number of faculty members at each of the four conventional ranks. An institution might have a larger or smaller proportion in the upper two ranks, depending upon its success in attracting and retaining mature scholars.

It is important that the staffing pattern be the result of conscious planning. It should not just grow. At all times institutional officials should be fully aware of the implications of a given staffing pattern on the budget and on personnel policy. Table 7 shows five possible patterns for distributing a salary budget of $350,000 among 67 faculty members. All five patterns result in the same average faculty salary.

It should be noted from Table 7 that the higher the proportion of professors and associate professors, the lower the average salary at each of these two ranks. Also, the range in average salaries between the highest and lowest academic rank is narrower where there is a predominance of faculty members at the upper ranks. Of the five possible patterns, "V" would normally require the most selective process of advancement to the ranks of associate professor and professor. But, more important, it would put the institution in a favorable position to attract experienced faculty members from other institutions using either of the other patterns. This advantage of pattern "V" would be quickly lost, however, if an institution failed to provide for a wide range in salaries within a given academic rank and among the four ranks.

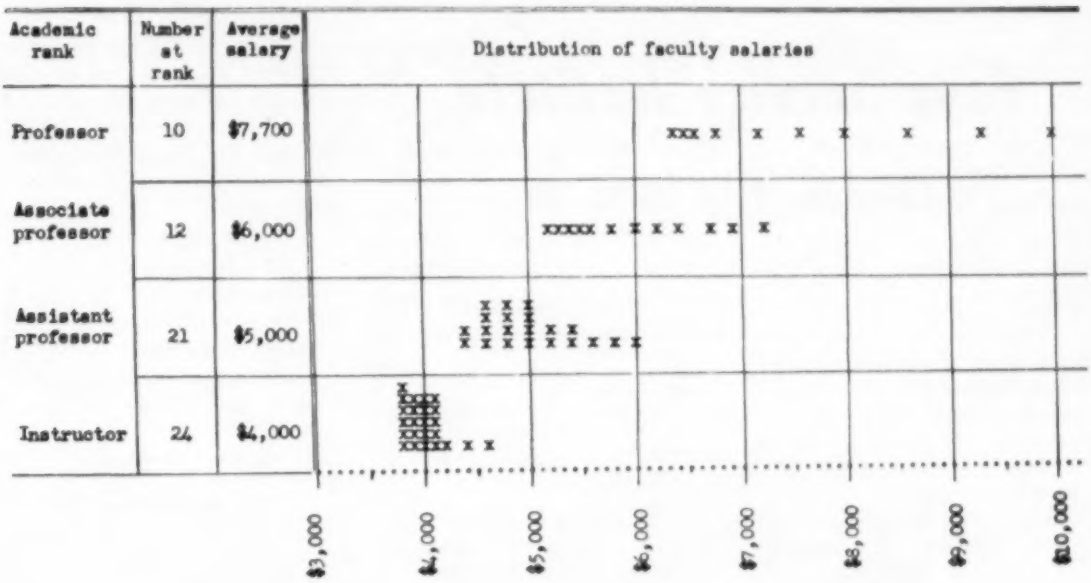
Chart 1 shows how an institution using staffing pattern "V" might distribute salaries so as to obtain a satisfactory range. The lowest paid instructor would receive $3800 and the highest paid professor, $10,000. The pattern provides for overlapping of salaries between adjacent ranks and for a wide range in salaries within each rank. It is to be noted that the range in salaries within each rank grows progressively wider from one rank to the next. This is desirable because there is a greater range in experience and achievement among the mature scholars at the higher ranks than among the faculty of the lower ranks.

Another element of faculty organization that has important bearing on salaries is the number of students per faculty member. Table 8 illustrates the possible effects of varying student-faculty ratios on the average salary for an institution with an enrollment of 1000 students and a total instructional salary budget of $350,000. A student-faculty ratio of 10 to 1, requiring 100 faculty members, would result in an average salary of $3500. With the same salary budget, an institution could provide for an average faculty salary of $5225 by employing only 67 faculty members, which would result in a 15 to 1 student-faculty ratio. But by employing only 44 faculty members and maintaining a student-faculty ratio of 22.5 to 1, an

Table 7—Possible Staffing Patterns for an Institution With a Faculty Salary Budget of $350,000 and 67 Faculty Members

Funds Available	No. of Faculty Members	Average Faculty Salary	Staffing Pattern	Professor		Associate Professor		Assistant Professor		Instructor	
				No.	Average Salary	No.	Average Salary	No.	Average Salary	No.	Average Salary
$350,000	67	$5225	I	25	$6032	20	$5200	12	$4600	10	$4000
			II	20	6280	18	5400	16	4700	13	4000
			III	16	6575	17	5600	17	4800	17	4000
			IV	12	7158	15	5800	19	4900	21	4000
			V	10	7700	12	6000	21	5000	24	4000

Chart 1—Distribution of Faculty Salaries for an Institution Using Staffing Pattern "V"



institution would have the funds for an average faculty salary of $7950.

The impact of a given student-faculty ratio on average salaries for each of the four academic ranks is even more impressive. The average salaries for each of the ranks, shown in Table 8, are computed on the assumption that there would be a nearly equal distribution of faculty members at each of the four academic ranks. If an institution of a thousand students with a total instructional salary budget of $350,000 were to maintain a student-faculty ratio of 10 to 1, the average salary for instructors would most likely be about $3000 and the average salary for professors not more than $4300. The salary of the highest paid faculty member in this organization would probably not exceed $5500 or $6000. With the same total salary expenditure and a student-faculty ratio of 22.5 to 1, the average salary for instructors could be $4600 and the average salary of professors about $12,000. This faculty organization could provide for several professors whose salaries might be as high as $15,000 or $16,000.

If each of the six student-faculty ratios in Table 8 were to represent a different institution, we have no doubt but that the best faculty would be found in the institution with the average faculty salary of $7950 and a student-faculty ratio of 22.5 to 1. This institution is in the most favorable position to retain its experienced faculty members and to compete with industry, government and other colleges and universities for top quality talent. It is also in the best position to attract promising young faculty members because it can offer both a decent starting salary and prospects for high salaries with advancement. Undoubtedly there are certain advantages to a low student-faculty ratio, but these advantages accrue only if an istitution can, at the same time, afford to support a high quality staff. Too frequently the price of maintaining a ratio of 12 or 13 students per faculty member is a low average faculty salary. Scholars on the faculty who insist that a low ratio of students to instructors is essential to a good academic program usually fail to realize what a terrific price they pay in low salaries for that condition. Nor is there evidence that a low student-faculty ratio, of itself, results in a superior academic program. It is much better for a student to be one of 20 or 25 having contact with a first-class scholarly mind on the faculty than to be one of 10 or 12 having contact with a faculty member of the mediocre level of ability that usually results from a low salary scale.

(To Be Continued Next Month)

Table 8—Six Possible Faculty Organizations for an Institution With an Instructional Salary Budget of $350,000 and an Enrollment of 1000 Full-Time Students

Funds Available for Instructional Salaries	Students per Faculty Member	No. of Faculty Members	Average Faculty Salary	Number and Average Salary at Each Rank							
				Professor		Associate Professor		Assistant Professor		Instructor	
				No.	Average Salary	No.	Average Salary	No.	Average Salary	No.	Average Salary
$350,000	10.0	100	$3500	25	$4300	25	$3500	25	$3200	25	$3000
350,000	12.5	80	4375	20	5250	20	4650	20	4000	20	3600
350,000	15.0	67	5225	17	6650	16	5675	17	4600	17	4000
350,000	17.5	57	6140	14	8400	15	6720	14	5200	14	4200
350,000	20.0	50	7000	12	10,000	13	7830	13	5800	12	4400
350,000	22.5	44	7950	11	12,000	11	8820	11	6400	11	4600

Complete Program for

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Chicago, July 16 to 18

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Food Service Institute Faculty

Bruno Adams, assistant director, food service, Northwestern University.
George F. Baughman, business manager, New York University.
Willard J. Buntain, director of housing, Northwestern University.
Stanley R. Clague, vice president and secretary, The Modern Hospital Publishing Co.
Jeannette Gill, director of food service, Dartmouth College.
Nellie Gleason, director of foods, Grinnell College.
Fern Gleiser, professor of institution economics and management, University of Chicago.
Harold W. Herman, editor, College and University Business.
Harold W. Jordan, director, Indiana University Memorial Union.
Lylas Kay, director of dormitories and commons, University of Chicago.
Col. Paul P. Logan, director of research, National Restaurant Association.
R. J. Lichtenfelt, director of dormitory food services, Michigan College of Education.
Theodore W. Minah, director of dining halls, Duke University.
Richard P. Moody, sales representative, Raytheon Manufacturing Company.
Theodore M. Rehder, director of residence halls and food service, State University of Iowa.
Dan C. Robertson, director of dining service, Illinois Bell Telephone Company.
George Sanderson, chef, Raytheon Manufacturing Company.
Edward M. Shindeldecker, district sales manager, General Mills, Inc.
Newell J. Smith, director of residence halls, University of Wisconsin.
Ken White, industrial designer, New Jersey.
Col. Lester B. Wikoff, secretary-treasurer, Wentworth Military Academy.

Institute Directors

Willard J. Buntain, director of housing, Northwestern University.
Harold W. Herman, editor, College and University Business.
Lylas Kay, director of dormitories and commons, University of Chicago.

MONDAY, JULY 16

General Organization

Presiding: Harold W. Herman, editor, College and University Business.

9:30—Opening remarks, Stanley R. Clague, vice president, Modern Hospital Publishing Company.

9:35—What the Business Manager Expects of the Food Director, George F. Baughman, business manager, New York University.

10:00—Discussion.

10:20—What the Food Director Expects of the Administration, Theodore W. Minah, director of dining halls, Duke University.

10:45—Discussion.

11:00—Food Cost Control, Bruno Adams, assistant director, food service, Northwestern University.

11:25—Discussion.

Food Service Policy

Presiding: Lylas Kay, director of dormitories and commons, University of Chicago.

2:00—Is Food Service by Concessionaire the Answer? Col. Lester B. Wikoff, secretary-treasurer, Wentworth Military Academy.

2:30—Discussion.

2:45—Does Food Service by the College Union Constitute Unfair Competition? Harold Jordan, director, Indiana University Union.

3:15—Discussion.

3:30—Chartered bus trip to Stouffer's Restaurant in the new Prudential Insurance Building. A visit to the Gibraltar Room and to the "Top of the Rock" lounge overlooking the city of Chicago.

5:00—On your own.

TUESDAY, JULY 17

What's New?

Presiding: R. J. Lichtenfelt, director of dormitory food services, Central Michigan College of Education.

9:00—What's New in the Food Business? Col. Paul P. Logan, director of research, National Restaurant Association.

9:45—Discussion.

10:00—Increasing Capacity by Remodeling, Jeannette Gill, director of food service, Dartmouth College.

10:35—Discussion.

10:50—New Ideas in Food Service Layout, Ken White, industrial designer.

11:30—Discussion.

Merchandising

Presiding: Fern Gleiser, professor of institution economics and management, University of Chicago.

2:00—Our Experience With Glassware, Dan C. Robertson, dining service manager, Illinois Bell Telephone Company.

2:20—Discussion.

2:30—Pre-Mix Baking Pays Off, Edward M. Shindeldecker, district sales manager, General Mills, Inc.

3:30—Discussion.

3:45—Cooking by Radar (Radarange Demonstration), Richard P. Moody, sales representative, and George Sanderson, chef, Raytheon Manufacturing Co.

4:45—Discussion.

WEDNESDAY, JULY 18

Problem Clinic

Presiding: Willard J. Buntain, director of housing, Northwestern University.

9:00—Food Service on a Limited Budget, Nellie Gleason, director of foods, Grinnell College.

9:30—Discussion.

9:45—Utilization of Student Labor, Newell J. Smith, director of residence halls, University of Wisconsin.

10:15—Discussion.

10:30—Preventive Maintenance Reduces Costs, T. M. Rehder, director of residence halls and food service, State University of Iowa.

11:00—Discussion.

11:15—Question Box.

11:45—Luncheon at Jacques French Restaurant.

Adjournment

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NEWS

Grant for Statistics Center . . . May Match Funds to Expand R.O.T.C. Facilities . . . Two Research Institutes Founded . . . Industries Give New Scholarship, Salary Aid . . . Presidential Advisory Committee Named

R.O.T.C. Asks Federal Matching Funds in Huge Expansion Program

WASHINGTON, D.C.—U.S. colleges and universities are prepared to spend $66,662,000 over the next six years for improvement and expansion of facilities to care for the army, navy and air force R.O.T.C. programs if matching funds on a 50-50 basis are made available under provisions of legislation now under study by the Department of Defense.

Statements of willingness to make these expenditures were included in the answers by 344 institutions to a questionnaire distributed by the American Council on Education, and made public on May 19. Of those institutions expressing a definite opinion, 95 per cent approved the current proposals for 50-50 federal matching of funds for construction or remodeling to meet the needs of R.O.T.C. programs.

The proposed legislation, according to Council President Arthur S. Adams, has the endorsement of numerous educational organizations.

Of the 250 institutions reporting plans for spending more than $66 million from their own resources on expanded R.O.T.C. facilities, only 45 indicated the intention to expend funds for this purpose in the immediate future without federal matching.

R.O.T.C. programs in the last five years have produced more than 136,000 commissioned officers for the armed forces, the college replies show.

The colleges and universities estimated the value of facilities now in use by the R.O.T.C. at more than $190 million.

Dormitory Fire

HUNTSVILLE, ALA.—On May 22 fire destroyed a residence hall housing 90 freshmen at the Alabama A & M College for Negroes in this city. Replacement costs were estimated at $400,000.

New Research Institutes Set Up by Carnegie Corp.

NEW YORK.—The Carnegie Corporation of New York recently announced a grant of $2 million for the purpose of establishing two new research institutes in higher education to tackle critical issues in colleges and universities.

The centers, described as the first of their kind, are being supported by grants from the corporation. One of them is being established with a grant of $400,000 to the University of California; the other, to be set up at Teachers College, Columbia University, will be supported by an award of $375,000.

These centers will deal with such problems as how to handle the vastly expanded enrollments in colleges and universities, and the relative rôles of liberal arts and specialized education. The center at the University of California will be under the direction of Thomas R. McConnell of the school of education. Professor McConnell, a former dean at the University of Minnesota and president of the University of Buffalo from 1950 to 1954, was a member of President Truman's Commission on Higher Education.

The Institute for the Study of Higher Education at Teachers College will be under the direction of Earl J. McGrath, former U.S. commissioner of education, who will leave his present post as president of the University of Kansas City to head the new program.

A third grant of $375,000 went to the American Council on Education in Washington to create an office of statistical information and research on higher education.

Grant Makes Possible Center of Information on Educational Statistics

WASHINGTON, D.C.—The American Council on Education recently received a grant of $375,000 from the Carnegie Corporation of New York for establishment of a center of information on educational statistics with emphasis on higher education.

Dr. Arthur S. Adams, president of the council, said the new statistical office will be useful to the future of all higher education.

The grant also was saluted by Samuel M. Brownell, U.S. commissioner of education and ex-officio member of the council's executive committee.

In announcing the grant, Dr. John W. Gardner, president of the Carnegie Corporation, said: "American higher education has become an enterprise of vast size and scope. Successful planning cannot be carried out unless the colleges and universities have access to the same quality of statistical information that is available in other areas of our national life, such as business."

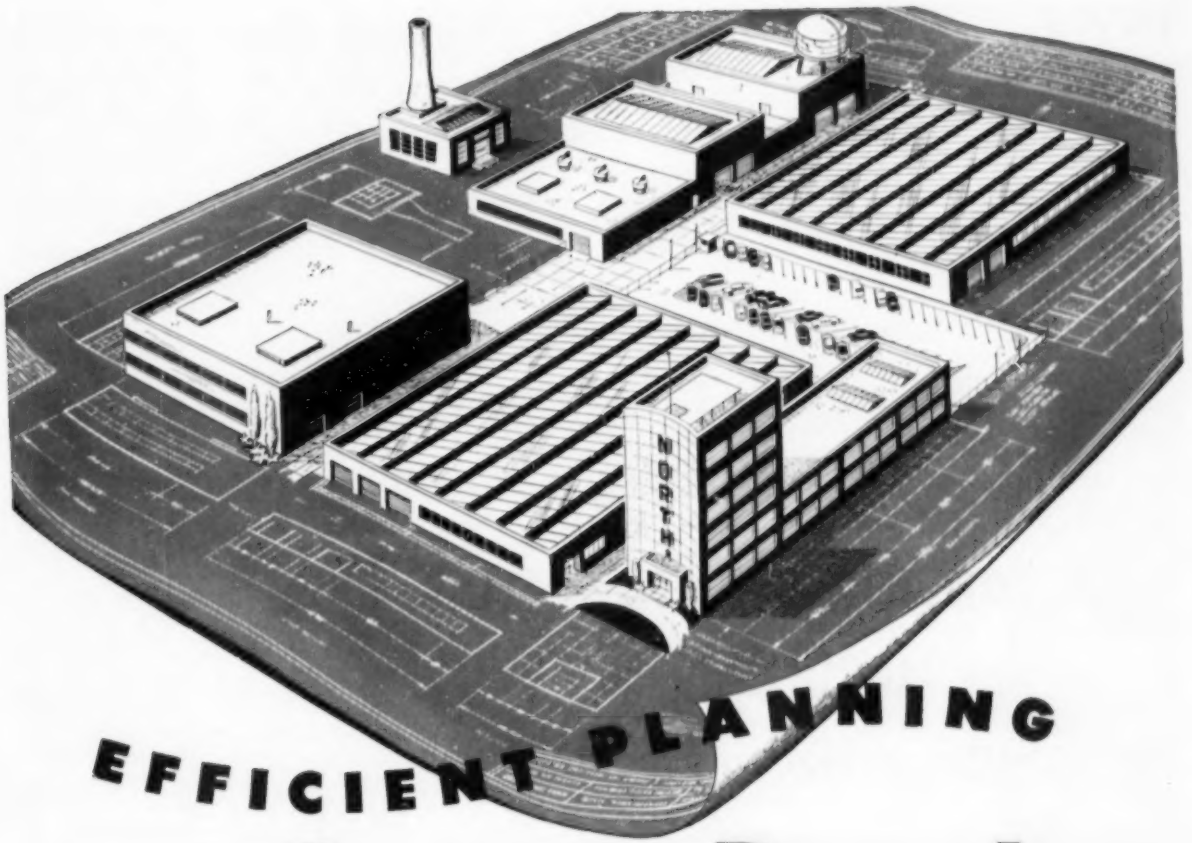
The grant covers five-year operation of a project designed to accomplish the following:

1. Provide a center of information about educational statistics with emphasis on data relating to colleges and universities.

2. Analyze data now being gathered by other agencies to appraise its usefulness for decision making by college and university administrators and to seek by all persuasive means to improve the precision and usefulness of such data.

3. Identify gaps in present statistical knowledge concerning higher education and encourage the cooperation of other interested agencies to seek and obtain such needed information.

4. Undertake studies designed to assist in the improvement of current



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procedures and practices in gathering and reporting statistics.

5. Make a limited number of studies of its own of special cogency and importance not likely to be undertaken by any other agency.

6. Make studies from presently available statistics to bring into focus all available information relating to issues of special significance and importance.

7. Publish and distribute its findings.

Scholarships Governed by Family Income

ALBANY, N.Y.—The board of regents of New York recently established a standard of financial need under which high school students may qualify to compete for 500 engineering and science scholarships of $500 each created by the 1956 legislature.

At its 88th convocation, the board of regents approved the qualification recommended by the new education commissioner, James E. Allen Jr., in adopting rules authorized by the legislature to take into consideration the ability of applicants' parents to pay for their higher education.

The awards will be limited to applicants whose parents' taxable income, as shown by their latest state income tax returns, plus income from tax exempt securities, is less than $7000 a year.

Gov. Harriman signed the bill, but criticized it because it did not specifically authorize the regents to vary the amount of the cash grant, as requested by the regents.

Newly Appointed Prexies and Wives to Attend Institute June 19-27

BOSTON.—Thirty-six newly appointed college and university presidents and their wives, representing schools in 23 states, will attend the second annual President's Institute June 19 to 27 at the Harvard Graduate School of Business Administration.

Created a year ago under the sponsorship of the Association of American Colleges and the Carnegie Corporation of New York, the institute is designed to help presidents who have been appointed to their posts in the last three years to study, analyze and discuss problem situations actually being faced by college presidents. Discussion of typical problems faced by the president's wife will be the core of the program especially planned for wives.

Those who have been accepted for the institute include Dr. and Mrs. Lawrence L. Pelletier, Allegheny College, Meadville, Pa.; Dr. and Mrs. Silas D. Snow, Arkansas State Teachers College, Conway; Dr. and Mrs. Travis A. White, Atlantic Christian College, Wilson, N.C.; Dr. and Mrs. Alfred Bryan Bonds Jr., Baldwin-Wallace College, Berea, Ohio; Dr. and Mrs. Perry Epler Gresham, Bethany College, Bethany, W.Va.; Dr. and Mrs. Barnaby C. Keeney, Brown University, Providence, R.I.; Dr. and Mrs. David K. Allen, Davis & Elkins College, Elkins, W.Va.; Dr. and Mrs. Chester M. Alter, University of Denver, Denver; Dr. and Mrs. J. Wayne Reitz, University of Florida, Gainesville; Dr. and Mrs. Harry W. Porter, State Teachers College, Fredonia, N.Y.; Dr. and Mrs. Howard R. Bowen, Grinnell College, Grinnell, Iowa; Dr. and Mrs. Paul S. Bachman,

University of Hawaii, Honolulu; Dr. and Mrs. Andrew Davis Bruce, University of Houston, Houston, Tex.; Dr. and Mrs. Donald R. Theophilus, University of Idaho, Moscow.

Also Sister Mary of Lourdes, Immaculata College, Immaculata, Pa.; Dr. and Mrs. Arthur Zook, Kansas Wesleyan University, Salina, Kan.; Msgr. Alphonse-Marie Parent, Laval University, Quebec, Canada; Dr. and Mrs. Jean Paul Mather, University of Massachusetts, Amherst; Dr. and Mrs. George Boyce Connell, Mercer University, Macon, Ga.; Dr. Colin B. Mackay, University of New Brunswick, Fredericton, N.B., Canada; Dr. and Mrs. Eldon L. Johnson, University of New Hampshire, Durham.

In addition, Dr. and Mrs. Carey Hoyt Bostian, North Carolina State Agriculture and Engineering College, Raleigh; Dr. and Mrs. Robert E. Long, Park College, Parkville, Mo.; Dr. and Mrs. Millard George Roberts, Parsons College, Fairfield, Iowa; Dr. and Mrs. Ronald C. Bauer, Polytechnic Institute of Puerto Rico, San German; Dr. and Mrs. William E. Morgan, Principia College, Elsah, Ill.; Dr. and Mrs. James A. Boyer, St. Augustine's College, Raleigh, N.C.; Dr. and Mrs. Reuben P. Jeschke, Sioux Falls College, Sioux Falls, S.D.; Dr. and Mrs. David Hitchens Morgan, Texas A & M, College Station; Dr. and Mrs. Samuel N. Nabrit and Dr. and Mrs. Daryl Chase, Utah State Agricultural College, Logan; Dr. and Mrs. Byron K. Trippet, Wabash College, Crawfordsville, Ind.; Dr. and Mrs. Clarence B. Hilberry, Wayne University, Detroit; Dr. and Mrs. Herrick B. Young, Western College for Women, Oxford, Ohio; Dr. and Mrs. Robert L. D. Davidson, Westminster College, Fulton, Mo.; Sister M. Josephina, Xavier University of Louisiana, New Orleans.

Visiting Students Study Honor System

HOBOKEN, N.J. — Students representing 20 eastern colleges recently visited the campus of Stevens Institute of Technology in this city to observe the honor system that has been operated here for more than 50 years.

The all-day session was arranged in early May after students of other colleges had indicated they wanted to consider the system. At Stevens, examinations are held without proctors and class cuts are reported by the students themselves.

Members of the Stevens faculty and student body described the system to the visitors and discussed its value in the development of a student's character. Later the visitors participated in round table discussions, with Stevens' students serving as moderators.

James G. McGrory, president of the student council at Stevens, said: "The primary reason more colleges have not installed an honor system seems to be a widespread assumption that students are not to be trusted on their own. We think this is a false assumption because an honor system has worked well here for 50 years, and we feel that it could be installed profitably elsewhere."

Grants of $500,000 Go to 186 Colleges

NEW YORK.—Colgate-Palmolive Company celebrated its 150th anniversary recently with the announcement

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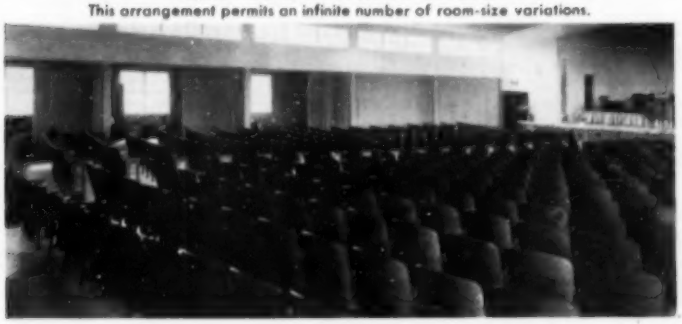

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of grants totaling $500,000 to 186 colleges and universities.

The grants will be in varying sums of $2000 to $5000 and will go to institutions situated all over the country, according to the statement by E. H. Little, chairman of the board. He commented that fewer than 10 per cent of the designated schools were in existence when 23-year-old William Colgate opened a small shop in 1806 at 6 Dutch Street in downtown New York to compound and sell soap and candles.

Radio-Television Educators Join E.T.R.C.

ANN ARBOR, MICH.—Four radio-television educators will join the staff of the Educational Television and Radio Center here this summer as the center moves to expand its program services to the 20 educational stations now on the air. A fifth man will serve on a short-term basis.

Kenneth Christiansen, project director of educational television for the Southern Regional Education Board, will assume the new position of program manager. He will expedite program acquisition and procurement.

Other appointments, all for one year only, include Donley Fedderson, professor and chairman of radio-television at Northwestern University; Kenneth D. Wright, director of broadcasting at the University of Tennessee, and Milo Ryan, associate professor in the University of Washington School of Communication.

Dr. Glenn Starlin, acting chairman of speech at the University of Oregon, who served with the center in 1954-55, will rejoin the program staff from June through August. Gordon Gray of Michigan State University became a program associate in February.

The department is headed by Robert B. Hudson, program coordinator since 1953. He is a former professor of journalism and director of radio and television at the University of Illinois in Urbana.

Program distribution this fall will jump from five hours per week to six hours. The center plans a distribution of 10 hours a week by 1959. Members of the department will cover the nation by assignment to production centers and to independent film and television producers.

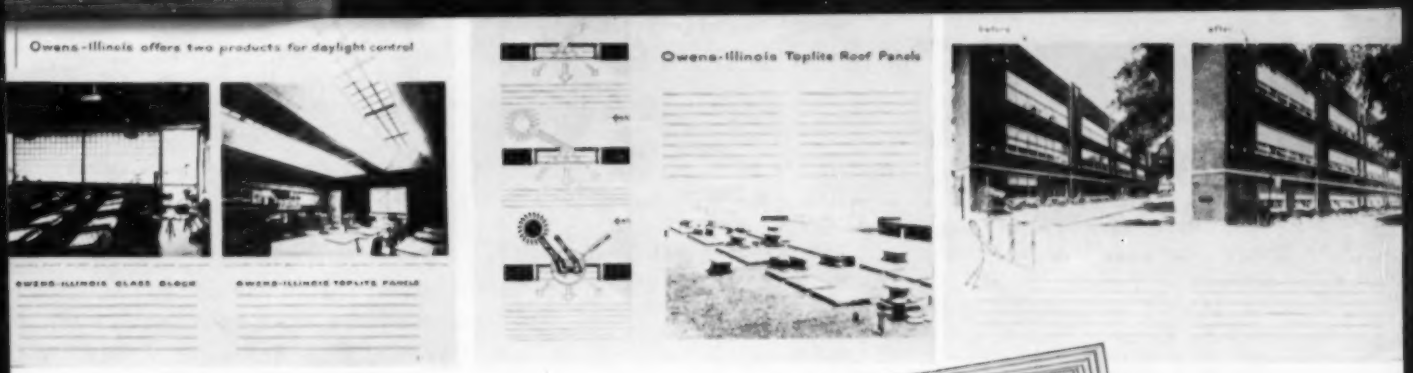
Denied Review of Ruling on Negro Student

WASHINGTON, D.C.—Louisiana State University on May 7 was denied a Supreme Court review of a ruling that it could not refuse—on account of race or color—to admit Alexander P. Tureaud Jr., 20 years of age, a Negro, as a student.

The ruling, in the form of a temporary injunction issued by the federal court in New Orleans, was upheld by the United States Circuit Court in that city.

The university contended that Mr. Tureaud first sought admission to the junior division of the university to pursue a combined arts and sciences course, but now wants to enroll in the college of education.

Fred S. Leblanc, attorney general of Louisiana, joined the university in appealing to the high tribunal. The appeal contended the injunction action should have been presented to a three-judge federal court instead of a single-judge federal court; that Mr. Tureaud is a minor and legally incapable of



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instituting the action, and that the university should have been permitted to show "conditions that now prevail" there.

M.I.T. Cites Nursery School

CAMBRIDGE, MASS.—The Westgate Nursery School, a campus preprimary school managed by student wives for the children of students, received one of several Karl Taylor Compton Awards at the Massachusetts Institute of Technology.

The award was made at an institution convocation and carries a $500 prize. A similar award was made to the M.I.T. interfraternity conference for improving initiation customs and abolishing hazing among fraternity groups.

These monetary awards to student groups, and others to individuals, were established by the Boston Stein Club, an alumni organization. The awards honor the late chairman of the board of the M.I.T. Corporation.

Appoint 33 in New Committee on Education Beyond High School

WASHINGTON, D.C.—The White House recently announced appointment of a 33 member Committee on Education Beyond the High School. Chairman of the committee is Devereux C. Josephs, chairman of the board, New York Life Insurance Company. Vice chairman is President David D. Henry of the University of Illinois.

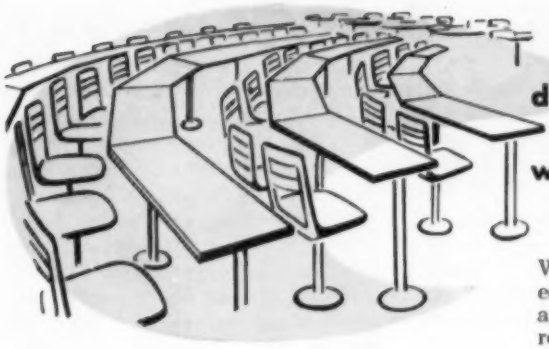
Secretary Marion B. Folsom of the Department of Health, Education and Welfare and Commissioner Samuel Miller Brownell of the Office of Education are serving as honorary vice chairmen. The committee held its first meeting in Washington on April 27 and is expected to hold another meeting this month.

At the conclusion of its first meeting, Chairman Josephs issued a statement on behalf of the committee, pointing out that it is not going to limit its work to the field of formal higher education but that it wants to study all aspects of education beyond the secondary school level.

One of the functions of the committee will be "to advise the President as to what we consider to be the proper rôle of the federal government in this field and to recommend appropriate federal policies and relationships," Mr. Josephs declared. He indicated that the committee wishes to encourage local, regional and state conferences on post-high school education but that it has reached no decision on whether it will recommend the holding of a White House Conference on Higher Education.

Those who will be serving on the committee, in addition to those mentioned, are the following:

George P. Berry, dean, Harvard Medical School; Lawrence L. Bethel, president, New York State Institute of Technology; Horace Mann Bond, president, Lincoln University; Sydney P. Brown, Chicago attorney; Dr. Harold C. Case, president, Boston University; Mrs. Norman Chandler, member, board of directors, Los Angeles Times-Mirror Company; Catherine Blanchard Cleary, vice president, First Wisconsin Trust Company; John Duffy Connors, direc-



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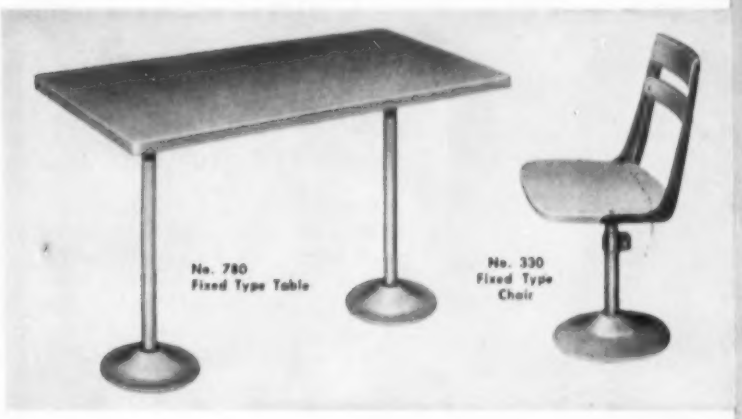

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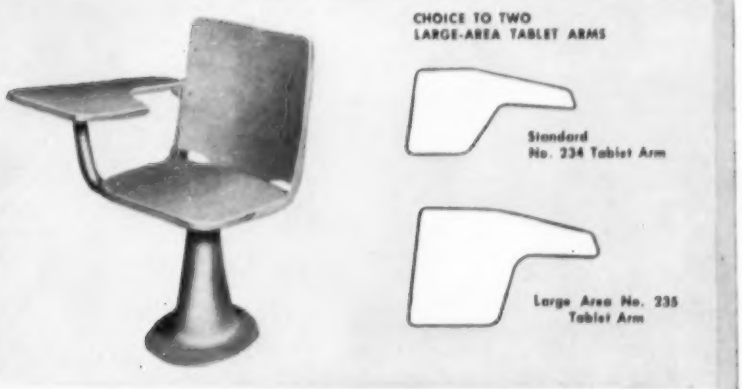

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Missionary Training Institute Changes Name

NYACK, N.Y. — The Missionary Training Institute, America's first Bible institute, officially changed its name to Nyack Missionary College on May 1.

The school was founded in 1882 by Dr. A. B. Simpson, who sought to establish a school that would meet what he regarded as the need of the hour—worldwide evangelization. This first Bible institute endeavored to combine into its curriculum in a three-year course the essential studies of college and seminary. The classroom work was augmented by an extracurricular program charged with the spirit of evangelism and missions. The result was a specialized school, training young people for a specialized task.

Nyack, which will be celebrating its diamond jubilee anniversary in 1957, has continued the same program of specialization for 75 years. A four-year and a five-year course were added recently to meet the rising tide of high school and college graduates. The basic program now offers bachelor degrees in the fields of Bible and theology, missions, christian education, and church music.

Nyack Missionary College is one of the four regional schools of the Christian and Missionary Alliance. It is accredited on the college level by the New York Board of Regents and the Accrediting Association of Bible Institutes and Bible Colleges.

176 Colleges Qualify for American Can Funds

NEW YORK.—A $300,000 aid-to-education program in the United States was announced by officials of the American Can Company.

The grants are being made to increase faculty salaries in accredited private colleges and universities that

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have one or more graduates working for the company. Employes must have five years or more of service with the company. Funds will be distributed over a five-year period running through 1960. The program supplements others the company already has in effect for education.

The 176 qualifying institutions have been notified. The amount each will receive will be determined by the number of its graduates now employed by the company.

High Court Rejects Alabama's Plea

WASHINGTON, D.C.—The Supreme Court on May 14 rebuffed an effort by the University of Alabama to upset a lower court order requiring it to admit Autherine J. Lucy, a Negro, as a student.

In a brief order and without a written opinion, the high court rejected the contention of university officials that the Lucy case should have been heard by a three-judge lower court instead of by U.S. District Court Judge H. H. Grooms alone. The court of appeals in the fifth circuit upheld the order. Judge Grooms ordered the university last year to admit Miss Lucy.

Increase of 10% in Sweet Briar Salaries

SWEET BRIAR, VA.—Increases in faculty salaries at Sweet Briar College, effective July 1, were announced following action taken by the board of overseers at its spring meeting May 19.

President Anne Gary Pannell pointed out in her statement to the faculty that this general increase of approximately 10 per cent has been financed largely through funds allotted to Sweet Briar from undesignated contributions to the Virginia Foundation for Independent Colleges during the past year.

The current action predates, in effect, increases that will be made possible when the Ford Foundation gift of $311,900 for faculty salary endowment is received and invested by the college by June 30, 1957. A part of this amount is the supplementary grant awarded to Sweet Briar as one of 126 colleges so honored.

A new academic salary scale has been established at Sweet Briar through the board's action. The minimum in each academic rank is as follows: instructor, $3200; assistant professor, $4000; associate professor, $4700; professor, $5800. Nonacademic salaries also will be increased.

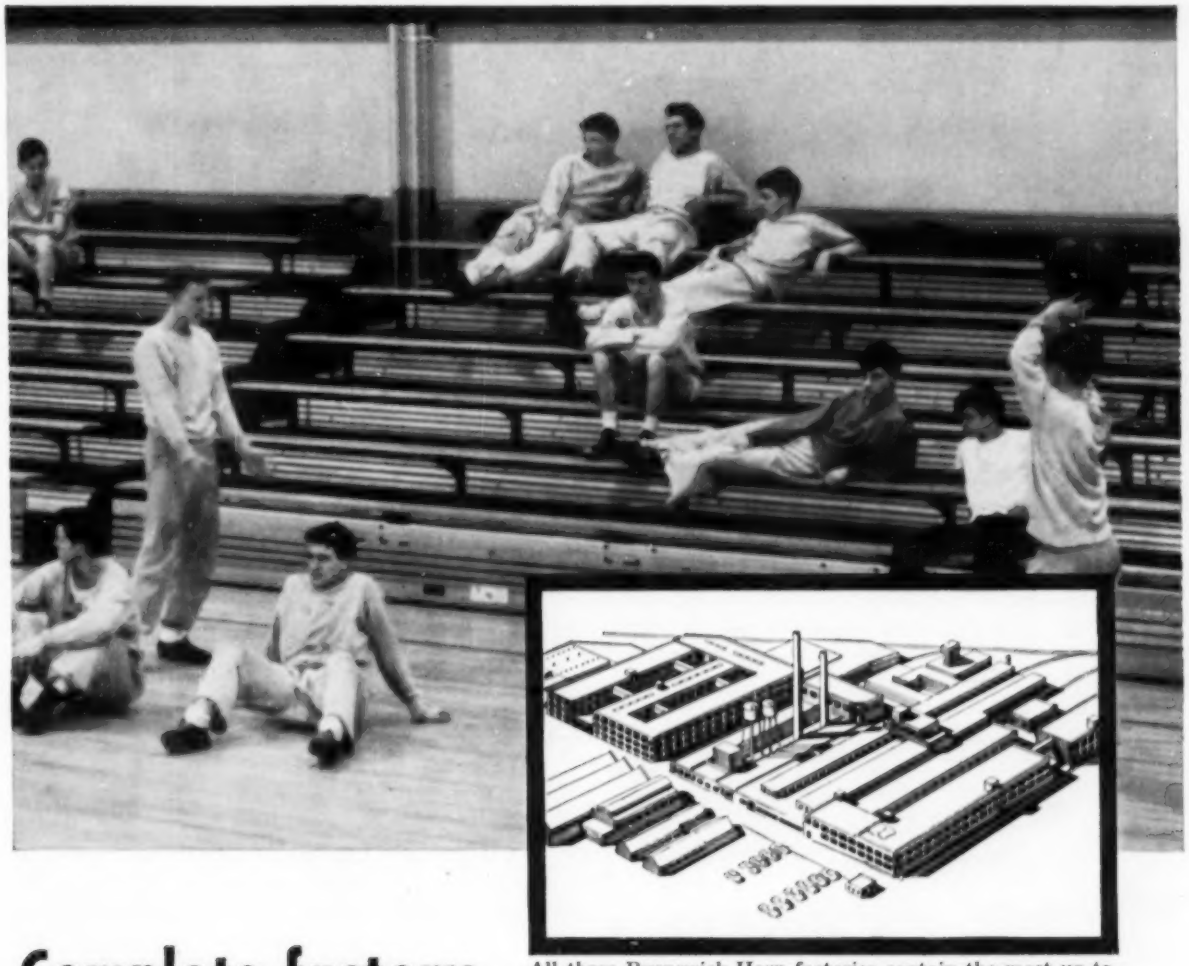
Half-Million Dollars for Educational Aid

TOLEDO, OHIO.—A half-million dollar educational aid program to benefit colleges, scholars and high school teachers has been established by the Owens-Illinois Glass Company, announces Carl R. Megowen, president.

The program includes an offer of summer employment in the company's plants and research laboratories for Owens-Illinois scholars and for more than 40 high school teachers of mathematics and science to be selected in the company's plant areas.

It also will provide 19 four-year scholarships annually, some for as much as $4000, to Baylor, Cornell, Georgia Tech, Illinois, Northwestern, Ohio State, Ohio Wesleyan, Purdue, Rutgers, Stanford, Toledo and Wisconsin, with an unrestricted grant being

Exclusive with Brunswick-Horn Folding Gym Seating



All three Brunswick-Horn factories contain the most up-to-date facilities to assure you the finest, most efficient product.

Complete factory control of all board manufacture

Brunswick-Horn (and only Brunswick-Horn) controls the complete manufacture of seat boards within their own plants.

Both flush and grooved type boards are edge-laminated for greater strength, safety and durability. Lumber is flat sawn, kiln dried, re-sawn and turned to provide edge-grain strength. Pitch pockets, bad graining, and knots . . . all defects are rejected! Selected stock is electronically glued under pressure. Hand sanding and finishing complete the operation.

Rail type boards are also available to allow free circulation of air where wall ducts exist.

Have your Brunswick-Horn representative explain why these, and other exclusive features, make Brunswick-Horn your best investment in gymnasium seating. Call him today. He will be glad to arrange a meeting at your convenience.

See SWEET'S $\frac{22\,J}{Ho}$

THE BRUNSWICK-BALKE-COLLENDER COMPANY
Horn Division • Marion, Virginia

Brunswick Horn

made to the university where Owens-Illinois scholars are enrolled.

G.M. Enlarges on Aid Program

DETROIT. — Harlow H. Curtice, president of General Motors Corp., announced recently that the corporation is doubling the scope of its financial aid to education program. Under the enlarged G.M. plan, 350 colleges and universities in the 48 states will receive more than $5 million for scholarships. Scholarship students will receive from $200 to $2000 and schools will receive from $500 to $800 a year as required.

Northwestern's 8000 Students Covered by Hospitalization Plan

EVANSTON, ILL. — Northwestern University has announced a group hospitalization program for its 8000 students on the Evanston and Chicago campuses effective next fall.

The program will be integrated with the existing student health service and will contain the following features: (1) hospital coverage anywhere in the world; (2) benefits of $17 per hospital day and $250 toward diagnostic procedures up to a maximum of $1000 per illness; (3) a surgical fee schedule up to $300; (4) an increase of campus infirmary care from 5 to 14 days per quarter; (5) discontinuation of special fees for x-ray and laboratory work within the student health service; (6) an option permitting coverage to continue during summer vacations; (7) an option to permit coverage of a spouse and children.

Dr. Leona B. Yeager, student health service director, declared that consideration was given to providing a type of health coverage that directly benefits commuter as well as resident students. Another principal consideration was to protect students against "disaster" situations in which serious injury or prolonged illness consumes funds intended for educational purposes and causes permanent withdrawal from school.

Dr. Yeager gave credit to student organizations for suggestions incorporated in the plan while it was being worked out by representatives of the university administration, the medical school, and the insurance firm.

Cost while in school for both the hospital insurance program and the health service will be $10 per quarter. Cost of optional hospital coverage during the summer vacation period will be $5 because the student will not be able to take advantage of on-campus health services.

Technological Institute students will be able to obtain hospital coverage during the periods they are off campus working in industry under the cooperative program. Married students may obtain coverage for a spouse at an added fee of $6.50 per quarter, which includes maternity benefits. Coverage for children will be $5.95.

Dr. Yeager said the plan is necessary to protect "the forgotten college group." She pointed out that students, upon reaching 19 years of age, cannot benefit from a parent's health insurance and cannot obtain individual coverage except at prohibitive cost. She said students under 19 who are covered by a parent's policy will obtain dual benefits.

NAMES.

NAMES IN THE NEWS

J. Stanley Harker

J. Stanley Harker, president of Alma College, Alma, Mich., since 1950, has resigned to accept appointment as president of Grove City College, Grove City, Pa. Dr. Harker will succeed **Weir C. Ketler,** president for 40 years, who is retiring on July 1.

M. Gale Morgan, assistant business manager of Valparaiso University, Valparaiso, Ind., resigned June 1 to join the Valparaiso Office Supply Company, which serves schools and businesses in the area with office and classroom supplies. Mr. Morgan has been an officer in both the Chicago-Wisconsin and the Indiana groups of the National Association of Educational Buyers, and a year ago prepared the purchasing forms display at the New York convention of the N.A.E.B.

Joanne Loewe Neel

Joanne Loewe Neel, assistant headmistress and instructor at the Agnes Irwin School, Wynnewood, Pa., since 1952, has been appointed dean of students of the Moore Institute of Art, Science and Industry, Philadelphia. During World War II, Mrs. Neel served in the Women's Army Corps as officer-in-charge of the W.A.C. Separation Center at Fort Dix, N.J. Mrs. Neel, who will join the Moore Institute administrative staff in September, will be professor of speech and English as well as dean of students.

Harold M. Weeks, formerly a vice president of the John Price Jones Company of New York City, has been named administrative adviser on planning and development for Rider College, Trenton, N. J. Announcement of his new appointment was made by **Dr. F. F. Moore,** president of the college.

James E. Allen Jr. was named New York State's commissioner of education on May 4. At the age of 45, Dr. Allen is the youngest person to hold the state's top post in education since the office was created in 1904.

Robert E. Hewes, associate registrar at Massachusetts Institute of Technology since 1953, has been named registrar to succeed **Joseph C. McKinnon,** who will retire July 1 after having served M.I.T. since 1923.

William A. Brandenburg, dean of Northwest Missouri State College, Maryville, has been named president of Nebraska State Teachers College, Wayne, Neb. He will succeed **John D. Rice,** who died in February. Dr. Brandenburg's appointment becomes effective July 1.

Lieut. Gen. Willard S. Paul, retired, was named president recently of Gettysburg College, Philadelphia. General Paul has been serving as assistant to the director of the Office of Defense Mobilization, but will resign to accept the new duties at the college on August 1. General Paul fills a vacancy that has existed since **Dr. Walter C. Langson** left the presidency of Gettysburg a year and a half ago to become president of the University of Cincinnati.

E. Leroy Knight, purchasing agent and bookstore manager at Middlebury

RASTETTER
Magnesium
SOLID KUMFORT
Chairs That Fold

Model 481 Chairs in the Purdue Memorial Union Building, Lafayette, Ind.

SOLID KUMFORT *Magnesium*

chairs that fold in the PURDUE MEMORIAL UNION...

Institutions choose Model 481 because they want comfortable seating that will last a lifetime! These chairs are rugged . . . with die-cast Magnesium frames and the famous Rastetter hinge and brace construction. Beautifully designed, they are ideal for use in schools, cafeterias, hospitals, hotels and clubs, where use often means abuse. They provide better seating whether they are ever folded or not.

Rastetter Solid Kumfort Chairs That Fold are made in both Wood and Magnesium in many attractive styles. They may be moved quickly and easily where rooms are used for several purposes.

Write for portfolio showing complete line and giving interesting facts on better seating.

THE SOLID KUMFORT FOLDING CHAIR ®

Chairs That Fold...

LOUIS RASTETTER & SONS COMPANY

***FINE FURNITURE THAT FOLDS* • ESTABLISHED 1881**

1326 WALL STREET • FORT WAYNE 1, INDIANA

NAMES . . . . . .

College, Middlebury, Vt., has been named assistant business manager, according to a recent announcement by **Carroll Rikert Jr.,** business manager. **John Clemons,** assistant bookstore manager since 1954, will become bookstore manager. **James D. Ross** has been named to the newly created post of business manager of athletics and assistant purchasing agent. All new appointments become effective July 1.

John J. Caton, founder of the Chrysler Institute of Engineering in Detroit, died recently at 76 years of age. Dr. Caton, who retired in 1946, founded the institute in 1929 as the only industry sponsored school in North America to be accredited to grant degrees in engineering. The original enrollment was 14. When he retired there were 1400.

E. Wilmer Nelson, controller of Upsala College, East Orange, N.J., since 1950, died recently of a heart attack. He joined the Upsala staff following his retirement from the Standard Vacuum Oil Company, with which he had been associated for 30 years. Most of that time he was the company's representative in the Far East.

DIRECTORY OF ASSOCIATIONS

National Federation of College and University Business Officers Associations

President: Nelson A. Wahlstrom; University of Washington; vice president: Henry Doten, University of Maine; secretary-treasurer: C. H. Wheeler III, University of Richmond.

Associations of College and University Business Officers

American Association

President: Harold K. Logan, Tuskegee Institute; secretary: B. A. Little, Southern University.

Central Association

President: Roscoe Cate, University of Oklahoma; secretary-treasurer: T. N. McClure, Knox College.

Eastern Association

President: Marcus Robbins, Yale University; secretary-treasurer: Kurt M. Hertzfeld, University of Rochester.

Convention: Dec. 2-4, Greenbrier Hotel, White Sulphur Springs, W.Va.

Southern Association

President: R. K. Shaw, Florida State University; secretary: C. O. Emmerich, Emory University.

Western Association

President: Glen C. Turner, Colorado State College of Education; secretary: Harry E. Brakebill, San Francisco State College.

Canadian Association of University Business Officers

President: A. G. Rankin, University of Toronto; secretary-treasurer: E. A. Wilkinson, Hart House, University of Toronto.

American College Public Relations Association

President: Bradford D. Ansley, Emory University; executive secretary: Marvin W. Topping, 726 Jackson Place, N.W., Washington 6, D.C.

Association of College Unions

President: Earl E. Harper, State University of Iowa; secretary-treasurer: Edgar A. Whiting, Cornell University; editor of publication: Porter Butts, University of Wisconsin.

Convention: March 31-April 3, Hotel Utah, Salt Lake City.

College and University Personnel Association

President: Arlyn C. Marks, State University of Iowa; secretary-treasurer: Elwood C. Clark, Rutgers University; executive secretary: Donald E. Dickason, University of Illinois. Permanent headquarters, 809 S. Wright St., Champaign, Ill.; Kathryn Hansen, editor, C.U.P.A. News.

Convention: Aug. 5-8, Cornell University, Ithaca, N.Y.

National Association of College Stores

President: E. Lyle Goss, University Book Store, Seattle; executive secretary: Russell Reynolds, Box 58, 33 West College Street, Oberlin, Ohio.

National Association of College and University Housing Officers

President: F. C. McConnell, University of Texas; secretary-treasurer: Ruth N. Donnelly, University of California, Berkeley.

Convention: July 29-Aug. 1, University of Oregon, Eugene.

National Association of Educational Buyers

President: M. T. Tracht, Illinois Institute of Technology; executive secretary: Bert C. Ahrens, 1461 Franklin Ave., Garden City, N.Y.

National Association of Physical Plant Administrators of Universities and Colleges

President: A. F. Gallistell, University of Wisconsin; secretary-treasurer: A. F. Gallistel, University of Wisconsin.

classified advertising

POSITIONS WANTED

Accountant—Age 49, with 30 years varied accounting experience, including college and university as administrative staff officer, desires to invest experience in capacity of business officer with a college or university in the South. Write Box CW 287 COLLEGE AND UNIVERSITY BUSINESS.

Administrative Assistant to the President, Fund Raising and Development, Business Manager, Student Counseling—Welfare executive experienced in administration, public relations, promotion and fund raising; personnel selection, management and counseling; financial reporting, budget preparation and control; and purchasing, wants to work in college or university; B.S. degree in administration; family consists of self and son. Write Box CW 295 COLLEGE AND UNIVERSITY BUSINESS.

Assistant Business Officer or Director of Dormitories and Food Service—Successful hotel man desires good connection with college or university; B.A. degree in business administration plus graduate work in hotel administration at Cornell, experienced in food, housing, personnel, and purchasing with some accounting background; age 35, wife college graduate; one child; presently employed in top executive capacity with large city hotel. Write Box CW 302 COLLEGE AND UNIVERSITY BUSINESS.

Business Manager, Treasurer—Successful college treasurer and business manager fourteen years, business administration teaching four years; proven competency in accounting, budgetary control, financial reporting, purchasing and plant maintenance; resourceful and understanding; presently treasurer liberal arts college. Write Box CW 290 COLLEGE AND UNIVERSITY BUSINESS.

Business Officer—Person with considerable financial, investment, and tax experience desires position as business officer of a college. Write Box CW 298 COLLEGE AND UNIVERSITY BUSINESS.

Engineer—Experienced in electrical construction, maintenance, design of power and lighting systems, theatre lighting, desires position in physical plant administration of college or university. Write Box CW 303 COLLEGE AND UNIVERSITY BUSINESS.

Food Service Director—Dietitian with more than 20 years administrative food service experience in colleges and hospitals desires college position in Atlantic seaboard area; available July or September. Write Box CW-279 COLLEGE AND UNIVERSITY BUSINESS.

Housing Director—Eight years experience under three leading authorities in the field; last four years in management position; proven competence in student relations, food service, maintenance, budgeting, and new construction; B.S. and M.S. degrees; married; 33; two children. Write Box CW-284 COLLEGE AND UNIVERSITY BUSINESS.

Superintendent of Buildings and Grounds—Now employed as superintendent in small midwest college; desires location on west coast in supervisory capacity; engineering school graduate; twenty years experience in maintenance, construction, buying and planning. Write Box CW 301 COLLEGE AND UNIVERSITY BUSINESS.

POSITIONS OPEN

Accountant—College trained accountant with residence hall or food service experience; large state university in Rocky Mountain area. Write Box CO 194 COLLEGE AND UNIVERSITY BUSINESS.

Administrative Dietitian—University of Missouri residence hall cafeteria serving 1,100; responsibilities include menu making, food purchasing, record keeping, supervision of personnel, coordinating work of staff members; requirements: A.D.A. member, experience in large scale operation either commercial or institutional; excellent opportunity in rapidly expanding program; salary commensurate with experience. Reply, Personnel Office, Room 3, JOHNSTON HALL, Columbia, Missouri.

Auditorium Manager—Position open for man competent in all phases of university auditorium management, new 3200-seat building. Write Frederick Stecker, Ohio Union, OHIO STATE UNIVERSITY, Columbus.

Business Manager—Associated Students, California State Polytechnic College is seeking a man as administrative officer for the Associated Students; training in business administration is essential; knowledge of intercollegiate athletic programs is desirable. Write Everett Chandler, Dean of Students, CALIFORNIA POLYTECHNIC, San Luis Obispo, California.

Dietitian—Experienced in food production, Missouri University student union serving 1,200 daily; responsibilities include menu planning, food ordering, supervision of personnel; salary $3,600 to $4,000. Reply: Personnel Office Room 3, JOHNSTON HALL, Columbia, Missouri.

Director of Physical Plant—Coed college of 1400 in Midwest; applicant should have qualifying experience and administrative ability; state qualifications, experience, salary requested. Write Box CO 190 COLLEGE AND UNIVERSITY BUSINESS.

Electrical Services Supervisor—Experienced electrical engineer for electrical maintenance work, large state university in Rocky Mountain area. Write Box CO 193 COLLEGE AND UNIVERSITY BUSINESS.

Graduate Mechanical Engineer—A large eastern university is looking for capable man to assist the director of buildings and grounds in operating, maintenance, utility, and construction problems; five to ten years of responsible experience preferred; assignment involves application of practical technical engineering knowledge and broad public contacts; this is a newly created permanent position with excellent potential; salary open; all replies confidential and will be acknowledged; please submit resumés to Box CO 185 COLLEGE AND UNIVERSITY BUSINESS.

Grounds Supervisor—Young trained horticulturist capable of supervising large labor groups; large state university in Rocky Mountain area. Write Box CO 192 COLLEGE AND UNIVERSITY BUSINESS.

Snack Bar Manager—For small college of 600 students; experience necessary; ideal opportunity for husband and wife team; salary open; may or may not include maintenance; for further information contact: Mr. Russell Berryann, Business Manager, STATE TEACHERS COLLEGE, Glassboro, New Jersey.

Working Superintendent—Under 40; buildings and grounds; Hartford, Connecticut suburb; 2 room apartment; perquisites; $3000; start July. Write Box CO 195 COLLEGE AND UNIVERSITY BUSINESS.

The rates for classified advertisements are: 20 cents a word; minimum charge, $4. (No charge for "key" number.)

Forms close 25th of month preceding date of issue.

COLLEGE AND UNIVERSITY BUSINESS

919 N. Michigan Avenue, Chicago 11, Ill.

WHAT'S NEW

June 1956

Edited by Bessie Covert

TO HELP you get more information quickly on the new products described in this section, we have provided the postage paid card opposite page 96. Circle the key numbers on the card which correspond with the numbers at the close of each description item in which you are interested. COLLEGE and UNIVERSITY BUSINESS will send your requests to the manufacturers. If you wish other product information, just write us and we shall make every effort to supply it.

Teacher's Cabinet Combines Wardrobe and Storage

Classroom materials and supplies as well as personal belongings and coats

can be stored in the compact and attractive Teacher's Storage Cabinet introduced by Brunswick. A variety of shelf arrangements to meet any classroom need is possible in the five adjustable shelves provided as standard equipment. In addition there are two file drawers for storage of classroom records. The wardrobe portion of the cabinet has a hat shelf and space for coats and rubbers. Magnetic catches are provided on the doors which may be locked if desired.

The cabinet is 23 inches deep and 47½ inches wide. It can be mounted on either a full length or island type base giving an overall cabinet height of 69¾ or 71¾ inches. The bases are equipped with adjustable screws to level on uneven floors. The cabinets are provided in sage gray with a choice of blue, yellow or coral for the color of the doors and inside back panel for attractive, cheerful appearance with doors open or closed. **The Brunswick-Balke-Collender Co., 623 S. Wabash Ave., Chicago 5.**

For more details circle #198 on mailing card

Hand or Electric Operation in Burroughs Quiet Calculators

Three hand operated and four electric operated machines are offered in the new Burroughs Series "C" Calculators. Exceptionally quiet operation is achieved for the electric models through the newly designed rubber shock mounts supporting the calculating mechanism.

An amber gray case and brown keyboard background with brown and ivory colored keys make for attractive color treatment. Three of the new styles are offered with "picture window" dials for greater ease in reading answers. The live key action in the new series gives the operator instantaneous answers. Keys are designed for finger comfort and permit touch method addition, multiplication and subtraction. **Burroughs Corporation, Detroit 32, Mich.**

For more details circle #199 on mailing card

Librarian's Desk and Shelving Included in Multi-Level Unit

The new Multi-Level Circulation Desk combines a Librarian's Desk with shelving units. Time and effort are saved with the unit which provides a 66 inch long section with two 40 inch high shelves which are within arm's reach. A storage cabinet with sliding doors forms the outside of the shelving unit.

The attractively styled unit has modern lines and is constructed with traditional Sjöström craftsmanship from the best kiln dried hardwoods. Wood surfaces are treated in various blond finishes

with the natural wood grain making the pattern. The tough, satin-smooth surface is easily maintained with minimum effort. Work tops can be supplied in rubbed wood, linoleum or surfaced-sealed, tough Micolor, as desired. This new unit in the New Life Library Furniture line is designed for efficiency and attractive appearance and tops can be finished in Sprout Green, Aqua, Flame or Pumpkin, as well as special colors if desired. **John E. Sjöström Co., Inc., 1717 N. Tenth St., Philadelphia 22, Pa.**

For more details circle #200 on mailing card

Electronic Device for Telephone Dictation

Inter-office dial telephones are used with the new Dial Televoice System introduced by Edison Voicewriter Division. The electronic device makes it possible for an executive to pick up his phone, dial a number and dictate his correspondence to a central recorder without losing any of the initial words. A constantly revolving magnetic drum permits the recording of words and holds the words until the disc reaches operating speed.

Extraneous voices and office noises do not affect the quality of the recording with the new device and an audible warning is sounded if the dictator allows the mouthpiece to move too far away from his voice so that the recording is not clear. The automatic recording machines are linked to a given extension number on the intra-office switchboard for operation of Dial Televoice. Personnel wishing to dictate dial the assigned extension number. The selector automatically finds a free machine when more than one machine is available and the dictation is recorded. The new electronic system was designed to eliminate the possibility of ineffective recording of dictation. **Thomas A. Edison, Incorporated, West Orange, N. J.**

For more details circle #201 on mailing card

Remote Control Operation for Classroom TV Camera

The GPL ii-TV equipment now includes a new classroom television camera which can be operated by remote control. Instructor or student in either the originating room or in a viewing classroom can achieve horizontal and vertical movement of the camera through remotely controlled pan and tilt mounting. Thus any desired field of view can be picked up by pressing a switch. The same principle applies to adjustment of the camera lens iris and focus. Proper view and focus

of the subject, as well as compensation for varying light conditions, can also be remotely regulated. **General Precision Laboratory, Inc., Pleasantville, N.Y.**

For more details circle #202 on mailing card

(Continued on page 76)

What's New . . .

Teacher's Storage Cabinet Has Nevamar Surfaces Throughout

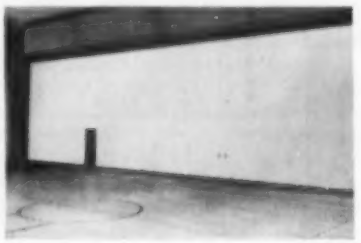
Nevamar high pressure laminate, an extra hard surfacing material with the beauty and warmth of woods and colors, is used throughout the new No. A-1 Teacher's Storage Cabinet recently introduced. Dirt and dust cannot penetrate the surface which does not craze, crack or peel, resists cigarette burns and is not affected by grease, fruit juices, alcohol, ink and similar substances. It is easily cleaned by wiping with a damp cloth, thus ensuring attractive appearance and easy maintenance throughout the new cabinets.

The cabinets are divided into two sections, with a door for each. The wardrobe section is 22¼ inches wide and 22 inches deep with a hat storage shelf at the top. To the right is an adjustable shelf storage area with two adjustable storage shelves, a card file storage area and two legal size file drawers. Door hinges are semi-concealed for safety and easy cleaning and door catches are magnetic for positive action. Concealed floor levelers are adjusted from inside the bottom shelf. **National School Furniture Co., Odenton, Md.**

For more details circle #203 on mailing card

Electric Folding Partition Operates Automatically

A single key switch controls the improved, fully automatic EMCO Powermaster Electric Folding Partition. Major design improvements include the Auto-



Action Floor Seal which automatically pressure-seals against the floor to shut out noise and dirt, eliminating the need for floor tracks or guides; the Smooth-Motion Hydraulic Cylinder which opens, closes, locks and unlocks the Powermaster smoothly and quietly, and the Bridge-Built Doors constructed around a steel truss of steel channels welded into a one-piece solid frame. The door construction is such that regardless of temperature and climate they are said never to shrink, expand or warp and seldom or never require adjustment. Smooth finished appearance is achieved by the mortised ball bearing type hinges which are heavy duty to carry weight and prevent binding.

When fully extended the Powermaster electric folding partition approximates a solid wall, capable of absorbing normal shock and wear. The construction and floor seal ensure excellent sound and heat insulation. The overtravel allows the door to ease gently but firmly against the jamb, eliminating the need for a heavy spring jamb to absorb shock. The hydraulic unit is hermetically sealed and will not leak. The improved Powermaster partitions divides any large indoor area safely and quickly. **Equipment Mfg. Co., 1400 Spruce St., Kansas City 27, Mo.**

For more details circle #204 on mailing card

Heavy Duty Vacuum Has Square Tank

An all new wet-dry vacuum cleaner and blower is now available in the Hydro-Jet. Distinguished by its square tank, the Hydro-Jet has increased tank capacity due to its design. A new foolproof automatic shut off prevents over filling of the tank. It consists of a metal ball which rises with the water. The ball is protected by a wire cage which also serves as a stand for the cover. The Hydro-Jet Quick Coupler permits attaching of hoses or floor tools and locks them securely with one easy motion. The Hydro-Jet was developed especially for use in colleges and other institutions. **Advance Floor Machine Co., 4100 N. Washington Ave., Minneapolis 12, Minn.**

For more details circle #205 on mailing card

(Continued on page 78)

What's New . . .

Reenforced Fiberglass Panel for Increased Strength

Windows in hazardous locations, unsupported skylights and other areas

which require extra protection can be safely glazed with the new Resolite Security Panel. A sheet of expanded metal lath is embedded in a layer of three ounce fiberglass mat impregnated with polyester resin to form the strong, rigid panel. The standard sheet is produced in colorless, semi-clear resin which is translucent but not transparent. The sheet can be supplied in fire-retardant or self-extinguishing resin and is available in special sizes and colors. The standard sizes are eight feet lengths with one, two, three of four foot widths. **Resolite Corporation, Zelienople, Pa.**

For more details circle #206 on mailing card

Maintenance Tower Can Be Raised and Lowered

The new hydro-electric elevating work tower can be plugged into any standard electric outlet and is powered by a ¾ h.p. single phase electric motor. The ML-4-AC Moto-Lift has 50 feet of heavy duty extension cable, permitting work along a 100 foot strip before moving to another outlet. The platform can be raised from seven to seventeen feet above the floor for overhead cleaning, painting and general maintenance.

The tower is easily operated and manned by one person. A foot button on the platform is pressed to control elevation and lowering. The 30 inch square work platform is of heavy metal plate with supports from the sturdy tubular leg base to each corner. The tower is engineered for safety and is easily rolled to place of need. **Safway Steel Products, Inc., 6234 W. State St., Milwaukee 13, Wis.**

For more details circle #207 on mailing card

Cooler for Bottled Milk Stores and Dispenses

The new model MC-10 all-steel refrigerated cabinet designed for storage and manual dispensing of bottled or carton milk has been announced. The new unit is trimmed in stainless steel and finished in white "hi-bake Dulux" enamel. Two stainless steel doors easily glide open or shut, and the two heavy wire shelves can be adjusted to accommodate half-pint, pint or quart size bottles or cartons. They can also be removed when necessary.

The cabinet, which can be operated on a regular 115 volt lighting circuit, has an adjustable temperature range of from 36 to 45 degrees F. There is a drain hose in the rear for cleaning. The unit, measuring 37 inches long, 28 inches wide, and 73 inches high, accommodates 432 half-pint, 264 pint, or 126 quart plus 84 half-pint bottles, or 516 half-pint, 344 pint, or 168 quart plus 84 half-pint

cartons. It can also be used for storage of 10 quart automatic dispenser cans. **Schaefer, Inc., 801 Washington Ave., Minneapolis 1, Minn.**

For more details circle #208 on mailing card

(Continued on page 80)

What's New . . .

Dial-A-Matic Photocopier Is Fully Automatic

A continuous automatic printer and continuous automatic processor are incorporated into one compact unit in the new completely automatic Dial-A-Matic Auto-Stat photocopy machine. The one-unit machine is designed to copy any material up to 15 inches wide, any length, simply and quickly. The color control dial is set for the type of copying to be done and anyone can make an accurate copy of any material that will go through the machine in a moment's time.

The color band section of the dial on the new machine includes white, yellow, green, blue and red. This is designed to coordinate the amount of light that is given to the original that passes through the printing section. Copies can thus be made from originals of any color with the dial automatically setting the exposure time required. The machine is housed in a durable, stainless steel case and the company states that the Apeco Dial-A-Matic Auto-Stat carries a full, lifetime guarantee. The machine pictured in use illustrates a motion study indicating the limited number of motions required to copy accurately even the most compact and technical sheet of information or data. **American Photocopy Equipment Co., 1920 W. Peterson Ave., Chicago 26.**

For more details circle #209 on mailing card

Steel Channel Partitions Are Permanent or Movable

Unistrut Partitions employ the Attwood system of space division for low-cost permanent or movable walls. The patented Unistrut steel channel is combined with any standard paneling material from ⅛ to ½ inch thickness. Plywood, hardboard, pressed wood, plastics, wallboards, metal, glass or other products can be used in the easily erected partitions. They have sound-rating qualities and are strong and durable.

Any desired framing pattern is available, including floor to ceiling, open ceiling, seven-foot office dividers, cubicles, railing and other arrangements. The partitions are easily adjusted, providing maximum flexibility in design and construction. Only simple tools are required to erect the partitions which consist of the basic Unistrut channel, spring nut, screw and fitting, plus the desired paneling material. Unistrut channels are screwed to floor and wall abutments, upright channels are bolted into position and horizontal channels bolted on. Standard panels are slipped into place and molding strips and corner cover plates complete the installation of durable, attractive partitions which are easily moved and re-used as required. **Unistrut Products Co., 1013 W. Washington Blvd., Chicago 7.**

For more details circle #210 on mailing card

Craftool Dustman Is Shop Cleaning Unit

A portable dust collecting and shop cleaning unit is available in the new Craftool Dustman. The self-contained dust collecting system is a powerful unit that employs any standard garbage or ash can as its waste receptacle. The portable unit collects dust and sawdust right at the machine, eliminating floating dust, and it can be used for cleaning wood or metal working machines, displays and for general cleaning in the shop or work area.

Dirt and dust are drawn in through the standard hood and 2½ inch diameter hose. Suction is created by a specially designed powerful blower through which the dust is drawn and deposited in the waste can. Free air escapes through a filter bag on the top of the machine. When the can is full, the Dustman is removed and the can emptied. A ⅓ h.p. ball bearing capacitor type motor with thermal overload protection and switch is used to power the Dustman. **Craftools, Inc., 401 Broadway, New York 13.**

For more details circle #211 on mailing card

(Continued on page 82)

in a class by itself . . .

Burroughs Sensimatic Accounting Machine makes short and easy work of your every general and budgetary accounting job!

Budgets, payroll, students' accounts, athletic department accounting . . . yes, now you can handle these and countless other jobs faster and more easily than you ever thought possible—thanks to the Sensimatic.

What makes a Sensimatic so extra special? Briefly, its many, many automatic speed features which cut down (way down!) on manual operations and operator decisions . . . features that make a Sensimatic so simple to operate that beginners quickly become expert. And the most work-saving of these is the *exclusive* four-job control panel. Here's why:

It automatically directs your Sensimatic through every accounting operation. And to switch from job to job, you simply turn a knob. Any wonder that users tag it the most efficient, most versatile accounting machine made?

What's more, the time and effort you save with a Sensimatic cuts your accounting costs right to the bone. And your initial investment? That's surprisingly low, too! More to this story? Of course! Call our nearest branch office . . . or write to: Burroughs Corporation, Detroit 32, Michigan.

Wherever There's Business There's Burroughs

"Burroughs" and "Sensimatic" are trademarks

What's New . . .

Two-Way Communications and Program Facilities

Two-way communications and "all-paging" facilities for a total of up to 48

speaker lines are provided in Raulland-Borg Corporation's Model S224 Intercom System for school and institutional use. S224 has a 30 watt amplifier with input connections for remote microphone, radio, phonograph and tape recorder. A volume level indicator is provided for control of room speaker volume. A master control of program volume level and control of outgoing speech on a two-way conversation as well as control of monitor speaker and incoming volume, are also provided.

Matching FM-AM radio and three-speed phonograph unit, Model S404, is available for use with S224 system to provide complete facilities for distribution and control of radio and phonograph programs. S404 includes quality FM-AM radio tuner and three-speed record player to accommodate records of all speeds and sizes up to 12 inch. Matching units are designed to stack compactly and conserve desk space, housed in all steel two-tone blue-gray cabinet measuring 18½ by 11 by 10 inches. **Raulland-Borg Corp., 3515 W. Addison St., Chicago 18.**

For more details circle #212 on mailing card

Non-Permanent Adhesive for Mounting Classroom Material

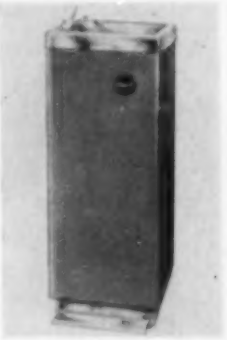
Delkote Tak is a new adhesive which can be used to mount various types of material on walls and other surfaces without damage. It is packed in a handy applicator tube and applied to signs, notices, student papers, holiday decorations, posters and other material for hanging on walls, woodwork, paint, tile or glass. The material adheres without marking or damaging the surface and is readily removed. Tak can be removed from any surface by rubbing with the finger. **Delkote, Inc., P. O. Box 1335, Wilmington 99, Del.**

For more details circle #213 on mailing card

Water Cooler Features Dual-Control

Both hand and foot operation are now included in a new Dual-Control Sunroc Water Cooler. The new feature is available on all standard type Sunroc Coolers, according to the announcement. Drinking water is properly cooled by the Sunroc coil-cooling method and is dispensed by either the new push-button bubbler or by slight pressure on the heavy-duty foot pedal which is removable if it is more desirable to have hand operation only.

The Sunroc Foot Pedal is constructed of extra heavy gauge stainless steel. It is extra wide for efficient operation and can be raised for thorough cleaning of floor areas around the base of the cooler. The pedal itself is easily cleaned as it has no corners or crevices. The new



Dual-Control cooler can be equipped with a glass-filler that is independently operated by a push-button control. **Sunroc Corporation, Glen Riddle, Pa.**

For more details circle #214 on mailing card

(Continued on page 84)

CONTEMPORARY DRAMA *Stars* GLASS

Speech Arts Bldg., Orange Coast College, Costa Mesa, Calif.
R. J. Neutra & R. E. Alexander, Architects.
Richard H. Pleger, Supervising Architect.
Thompson Paint & Glass Co., Glazing Contractor.

Structural Corrugated Glass Enhances Exterior . . . Screens Interior of College Building

Architect Richard J. Neutra has achieved an exterior treatment as dramatic as a Broadway hit with this striking installation of rhythmic, translucent Structural Corrugated glass. This modern material, rapidly gaining favor in contemporary structures, is an accomplished performer in daylighting. It effectively screens with light instead of darkness . . . floods protected areas with softened, diffused daylight. Translucent without being transparent, Structural Corrugated glass protects privacy beautifully. Practical as well as pretty, it lends itself especially well to today's designs and needs.

Make light a part of your plans. Specify Structural Corrugated glass or choose any of the wide variety of patterns and surface finishes by Mississippi. Available everywhere.

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GLASS COMPANY
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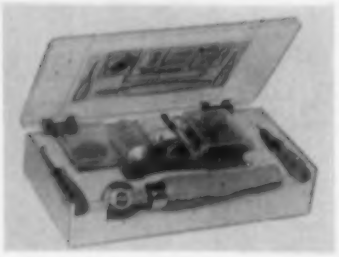
Write today for free literature. Address Dept. 27.

WORLD'S LARGEST MANUFACTURER OF ROLLED, FIGURED AND WIRED GLASS

What's New . . .

Voit Repair Kit for Inflated Balls



All the tools, patches, valves and fluids necessary for repairing inflated athletic balls are included in the new Voit RK20 Repair Kit. Complete instructions are also included for repair of rubber and fabric-lined balls. The kit provides inexpensive, quick, easy and permanent repair facilities for such minor accidents as holes made by pins, nails, cactus or other sharp or thorny material.

The materials in the kit can also be used to repair cuts or tears up to three-quarters of an inch in length on all types of rubber balls. Valves and the tools required for replacing damaged valves in needle-inflated balls are also included in the kit which is packed in a strong, clear plastic container for storage. **W. J. Voit Rubber Corp., 2945 E. 12th St., Los Angeles 23, Calif.**

For more details circle #215 on mailing card

"Build-It-Yourself" Short Wave Kit

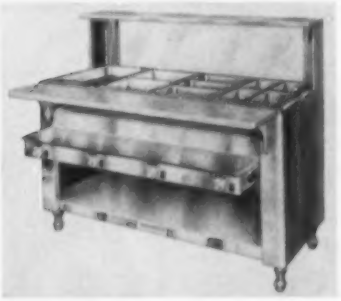
The new Knight-Kit "Space Spanner" is an easy-to-build short wave and broadcast receiver kit. It is an efficient and complete unit with built-in loudspeaker which provides short wave coverage from six to 18 megacycles and tunes in standard broadcasts when desired. Simple instructions with pictorial and schematic diagrams facilitate construction of the receiver which operates on any standard electric AC outlet without batteries.

Included with the kit is a new 24 page booklet for the beginning kit builder. Basic radio theory is discussed in simple language with many illustrations in 12 pages of the booklet, with the other 12 pages devoted to instructions for building the unit. **Allied Radio Corp., 100 N. Western Ave., Chicago 80.**

For more details circle #216 on mailing card

Waterless Food Warmer Has Integral Dish Shelf

A handy shelf to keep serving dishes warm is available with the new Thurmaduke Waterless Food Warmer. The entire warmer may be turned off at the master control switch without disturbing individual heat settings for each food compartment. Each heating compartment



is insulated on all sides and bottom with one inch fiberglass or equal. Heat loss is reduced and positive temperature control is maintained to preserve flavor and reduce shrinkage for each kind of food.

Control knobs are at fingertips on the new warmer which has nothing to burn out and no water pan to clean. The body is of rigid, all welded construction in 20 gauge paint grip steel. Corners are rounded and smooth for ease in cleaning. Adjustable height legs are of corrosion resistant aluminum alloy. The sectional 10 inch hard maple carving board can be removed without tools for cleaning. The company manufactures a complete line of waterless food warmers in sizes and models for every need. **Duke Mfg. Co., 2305 N. Broadway, St. Louis 6, Mo.**

For more details circle #217 on mailing card

(Continued on page 85)

What's New . . .

Stage Curtain Track Curves to 90 Degree Angle

The new Curvit-Sure aluminum, completely ball-bearing stage curtain track can be curved to six foot radius 90 degree angle. The track is designed to fit most curved layouts, even where relatively sharp radii are involved. It can also be mounted for straight runs and for walk-along type of operation on cycloramas. It will support curtain weights up to 800 pounds.

Two Curvit-Sure models are available. Model 340 is installed single in one section and Model 350 is a double sectioned unit. Both can be mounted directly to the ceiling or suspended, and may be curtain control operated or hand operated by a floor pulley. The cord is concealed in the channel itself, not exposed underneath the track, and moves through troughs running parallel on each side of the center supporting beam of the channel. The line is designed for medium and heavy duty cord-operated curtain track and offers trouble-free curved traverse movement. **Automatic Devices Co., 2121 S. 12th St., Allentown, Pa.**

For more details circle #218 on mailing card

Tubular Steel and Fiberesin in Classroom Seating

Another addition to the new line of classroom furniture designed for Peabody by the industrial designers, John Hauser Associates, is the No. 71 table

and No. 900 chair illustrated. Modern in concept and planned for comfort and utility as well as clean, attractive appearance, the units are constructed for rugged use and easy cleaning. Plenty of knee and foot room are allowed in the new design of the desk base which is constructed of tubular steel with self-leveling glides. The lifting lid is noiseless in operation and the bookbox has a full flat-bottomed surface for storage.

The No. 900 posture chair has formed Fiberesin seat and back for comfort with correct posture. The materials are resistant to use and abuse. The case-hardened steel glides keep the chair squarely on the floor, compensating for unevenness. **The Peabody Seating Co., Inc., North Manchester, Ind.**

For more details circle #219 on mailing card

(Continued on page 86)

Flashing Flare Beacon for Emergency Use

A new low-cost, battery charged beacon light is offered for use in emergency situations. The new Flashing Flare Beacon, Model No. 108-F, has a flashing bulb covered with a red Fresnel lens of durable molded plastic. The light is started and stopped by pushing a switch. It is powered by one standard 6 volt lantern battery which is housed in a sturdy, waterproof steel case finished in red enamel. Batteries are replaced quickly as there are no wires to connect. The Fresnel lens is also available in blue, green, amber and clear. **U-C Lite Manufacturing Co., 1050 W. Hubbard St., Chicago 22.**

For more details circle #220 on mailing card

What's New . . .

Automatic Ice Machine in Decorator Colors

Bright, attractive decorator colors are used to finish the new Chip-Freeze Auto-

matic Ice Flaking Machines introduced by the Cold Corporation. Colors include Shocking Pink, Baby Blue, Orchid, Canary Yellow, Mint Green and White.

A new feature in the design of the units delivers ice chips at waist level to eliminate the need for stooping or straining. The air-cooled ice-making machine is completely sanitary. Ice is produced at the top of the unit, eliminating the possibility for accumulation of old ice. Ice is drawn from the lower part of the upper section of the sanitary, stainless steel storage bin. The new unit has a capacity of 560 pounds of ice daily and produces ice flakes at low cost. The entire mechanism is easily accessible from front and rear for servicing. The machine operates automaticaly as ice is used. **The Cold Corporation of America, 1371 N. North Branch St., Chicago 22.**

For more details circle #221 on mailing card

Chalk-Off Cloth Efficiently Cleans Chalkboards

Chalk-Off Cloth is the name given a new chalkboard erasing product just announced. Tested in the Denver public schools, one of these dust cloths, impregnated with Velva-Sheen, cleaned a dozen large classroom chalkboards for a period of more than two weeks, the manufacturer declares. In addition, these slate boards were said to be improved in appearance. After the two weeks of use, the cloth was washed, retreated and put back to work. The cloth is said to absorb all dust, leaving none to fall and increase the problem of floor cleaning. Chalk-Off Cloth comes in 36 inch widths and in rolls of 25, 10 and 5 yard lengths. **Majestic Wax Co., 1600 Wynkoop St., Denver 2, Colo.**

For more details circle #222 on mailing card

Water Conditioner Features New Collection System

A new water collection system makes possible more efficient softening of water per pound of mineral used in the new Culligan water softeners and conditioners. Finely slotted manifolds spaced six inches apart at the bottom of the tank make up the new collection system. Water thus passes through the entire mineral bed, eliminating the possibility of a downward channel.

A feature on the new Culligan models tells at a glance the amount of softened water used, giving the user a check on the amount of water available before the next regeneration cycle must be performed. Elimination of the need for a supporting gravel bed gives more capacity per unit. A built-in alarm signal for time for regeneration is available as optional equipment. The new line is available in twelve model sizes with capacity ranges from 255,000 to 2,304,000 grains. **Culligan, Inc., Northbrook, Ill.**

For more details circle #223 on mailing card

MC-31 Floor Machine for Large Area Cleaning

Ten thousand square feet of floor area can be polished in thirty minutes with the new giant 31 inch Multi-Clean floor machine. It is especially effective in cleaning and polishing corridors and other large unobstructed floor areas. It has a brush covering area of 855 square inches and will scrub, polish or steel wool a floor in minimum time.

The new MC-31 is equipped with a powerful 1½ h.p. motor and has all the features and quality construction of standard Multi-Clean machines. The gear unit is sealed and permanently lubricated. The dual type safety switch cuts off automatically when finger grip is released, or may be locked on for continuous operation. The non-marking rubber wheels make the machine highly mobile and a heavy-duty axle prevents sagging or wheel spread. The brush attachment consists of four 12 inch diameter brushes mounted on ball bearing drive plates, which are attached to a

main driving disc. Special locking devices hold them securely, but they are easily slipped on or off when other attachments are required. **Multi-Clean Products, Inc., 2277 Ford Pkwy., St. Paul 1, Minn.**

For more details circle #224 on mailing card

(Continued on page 87)

What's New . . .

Pre-Mix Dispenser Vends Pepsi-Cola

A new line of pre-mix dispensers is now available for vending Pepsi-Cola in

cafeterias, auditoriums, at games and wherever fast dispensing is an advantage. The new dispensers are easy to operate and permit serving many people quickly and efficiently. Use of the dispensers also eliminates the problem of handling cases of bottles, empty bottles and the danger of broken bottles. Handling costs are at a minimum as the dispensers use Pepsi-Cola pre-mixed at the bottling plant which is chilled to the proper temperature. No ice is required in glasses or cups.

The new dispensers are available in capacities ranging from 25 to 80 gallons per hour, chilled to 40 degrees F. Replacement tanks of the pre-mixed beverage are handled by Pepsi-Cola distributors. The dispensers can be used at college dances and other functions for serving Pepsi-Cola as a money-making venture by the college or college organization. **S & S Products, Inc., Dept. 58, P.O. Box 1047, Lima, Ohio.**

For more details circle #225 on mailing card

Increased Glare Shade in LSA Sunscreen

The new LSA KoolShade Sunscreen provides high glare-shading efficiency. The new material used in the shade is described as ideal for glare control to properly daylight school rooms, libraries, offices and other areas. The screen is designed to protect windows against the build-up of excessive solar heat and glare at all hours of the day, and all seasons of the year.

Virtually all the outward visibility of regular screening is permitted with the new LSA KoolShade, yet it is said to afford greater protection against heat than a structural overhang. Installed flush to the outside of the windows, the new screen requires no tilting or other adjustment. The unique 24 degree eclipse angle proved by the tiny tilted louvers of the screen provide the cooling effect. The angle was developed by careful testing and is designed to maintain proper illumination levels, ensures brightness balance throughout the year, and keeps out the maximum amount of solar heat. It is also effective in protecting furnishings from sun fading. **KoolShade, Reflectal Corp., 310 S. Michigan Ave., Chicago 4.**

For more details circle #226 on mailing card

Heavy Duty Casters for Food Service Equipment

A new "50-55" medium duty series has been added to the line of Gleason casters. They are especially adaptable for use on food serving carts and trucks and other institutional wheeled equipment. The new series includes plate and stem type swivel and stationary casters with heavy duty rubber wheels in sizes including 2½ by 1⅛ inches, three by 1¼ inches, four by 1¼ inches and five by 1¼ inches. A large selection of stems is offered in different types and sizes for stem caster applications. Side brakes or threadguards can be provided on all models.

Wheels on the new line of casters are made of premium quality rubber compounds, blended to ensure easy starting and frictionless rolling with long trouble-free performance. Self lubricating oilless bearings are standard and ball bearing wheels are available if desired. **Gleason Corporation, 250 N. 12th St., Milwaukee 3, Wis.**

For more details circle #227 on mailing card

Institutional Gas Ranges Have A.G.A. Approval

Efficient and safe operation in school kitchens and cafeterias is ensured by A.G.A. approval in the new RTX line of institutional gas ranges. They are ruggedly designed and constructed for long wear. Built-in features include Mini

Top Pilot Lighting, Double Walled Shelf and aeration holes closed at ends. Improved draft at front and back and other new features make the line effective for institutional use. **Morley Mfg. Co., Mascoutah, Ill.**

For more details circle #228 on mailing card

(Continued on page 88)

What's New . . .

Product Literature

• A 24 page catalog of **"Kuehne . . . America's Finest School Furniture"** is available from Kuehne Manufacturing Co., Mattoon, Ill. Printed in color, the catalog contains full information on this complete line of school furniture with color photographs of actual pieces and descriptive data. The company's background of experience as a long-time manufacturer of tubular steel furniture is discussed as are details of construction of the furniture.
For more details circle #229 on mailing card

• **Catalog F-56** on **"Efficient Equipment for Mail and Small Materials Handling"** is available from The Federal Equipment Co., Carlisle, Pa. Photographs, dimensions and construction information on combination and key type lock boxes, bag racks, screens, grills and sorting cases are included in the catalog which also contains information on the Federal mail room engineering and layout service available to schools, colleges and other institutions.
For more details circle #230 on mailing card

• **The Complete line of Winnen Incinerators** for institutional use is described in a new four-page folder available from Winnen Incinerator Co., 932 Broadway, Bedford, Ohio. Printed in two colors, the folder illustrates and describes each item in the line with specifications, cutaway view showing features of the incinerators and a list of optional equipment.
For more details circle #231 on mailing card

• **"The New 1956 Line of Modern Business Training Desks for High Schools and Universities"** is described and illustrated in a folder available from Desks of America, Inc., Bridgeport 6, Conn. Descriptive data and architect's specifications are given in the six page brochure which also carries an editorial story on the proper use of typing desks.
For more details circle #232 on mailing card

• A new folder, **Form No. M-955, on Dor-O-Matic Manual Door Controls** is offered by the Dor-O-Matic Division of Republic Industries, Inc., 4446 N. Knox Ave., Chicago 30. A complete description of the 25 models of the new concealed-in-the-floor door control units that control as they open and as they close is given in the folder together with data on application of the various models.
For more details circle #233 on mailing card

• A new compilation of **"ASTM Standards on Soaps and Other Detergents (With Related Information)"** has been published by the American Society for Testing Materials, 1916 Race St., Philadelphia 3, Pa. The 176 page book, bound in heavy paper cover, lists 42 specifications and tests, six of which are new and 12 revised since the previous edition published in March 1952. The book sells for $2.50 per copy.
For more details circle #234 on mailing card

• **Owens-Illinois Glass Block** and its functions is the subject of a new catalog brought out by Kimble Glass Co., Toledo 1, Ohio. The catalog lists various glass block patterns including light and solar heat controlling blocks, as well as advantages of specific patterns, installation details, and various tables of interest to architects and builders.
For more details circle #235 on mailing card

• **The 1956 listings of approved floor finishing products** has been prepared by the Maple Flooring Manufacturers Association, 35 E. Wacker Drive, Chicago 1. Copies are available from the Research Department of the association. All products listed have been examined under revised specifications, designed to give the user the benefit of extensive research carried on since the last specifications were issued three years ago.
For more details circle #236 on mailing card

• What every school administrator, architect and educator should know about the new Benjamin Porcenell Chalkboard is told in the **Porcenell Fact Book,** according to information received from the company. Full data on the Porcenell chalkboard, described as being easy to see, easy to write on and easy to erase, is given in the eight page booklet available from Benjamin Electric Mfg. Co., Crysteel Div., Des Plaines, Ill. How this new and different surface is formed, tests conducted under actual use, its advantages and its resistance to damage are some of the points discussed. Summed up on the last page are points covering the significance of Porcenell to teachers, students, administrative heads, custodians and to the community.
For more details circle #237 on mailing card

• **"The Role of Projection Screens in Lighted Classroom Projection"** is the subject of a pamphlet written by Herschel Y. Feldman and offered by Radiant Manufacturing Corp., 2627 W. Roosevelt Rd., Chicago 8. The pamphlet discusses the problem of projecting pictures in the brightly-lit, well-ventilated classroom of today.
For more details circle #238 on mailing card

• Actual samples of the twenty standard Mills colors available for toilet compartments, shower and dressing rooms and shower units are incorporated into the new **Catalog No. 56-T on Mills Metal Partitions.** In addition to the color swatches the 20 page catalog contains information on Marblmetal ceiling hung and floor braced compartments, Sentinel and Metal Flush compartments, shower and dressing rooms, standard hardware, suggested layouts and specifications. The catalog is indexed and contains a list of local representatives. It is available from Mills Metal Compartment Co., Div. of The Mills Company, 965 Wayside Rd., Cleveland 10, Ohio.
For more details circle #239 on mailing card

• The full line of products developed by Finnell Systems, Inc., 4400 East St., Elkhart, Ind. **to aid in efficient floor care** is discussed in a new four-page folder. Products described and illustrated include combination scrubber-vac machines, conventional scrubbing-polishing machines, steel-wool pads, applicators, vacuum cleaners, mop trucks and other mopping equipment and a Carryall for transporting cleaning supplies and equipment. Also included is information on waxes, sealers and cleansers developed by the company.
For more details circle #240 on mailing card

• **Erie City Low Pressure Heating Boilers** are discussed in a completely revised eight page **Catalog S-55** released by Erie City Iron Works, Erie, Pa. Cross section installation and dimensional views with complete engineering data for 19 standard sizes in two series, the "500" for automatic firing of oil, gas or coal, and the H-500 for hand fired coal, are included.
For more details circle #241 on mailing card

• The story of the **"Ellison Balanced Door That Lets Traffic Through Quickly"** is told in a new catalog released by Ellison Bronze Co., Inc., Jamestown, N. Y. The control mechanism in the door is discussed as are its other features. Photographs of installations in institutions of various types are shown as are line drawings of construction details of the door.
For more details circle #242 on mailing card

• **Homemaking Room Equipment for Schools and Colleges** is discussed in detail in a folder released by Wood-Metal Industries, Inc., Kreamer, Pa. Line drawings of cabinets, casework and furniture in Wood-Metal, specifications, natural and enameled finish, and a list of recent school and college installations are included in the folder.
For more details circle #243 on mailing card

Suppliers' News

Fleet of America, Inc., 515 New Walden Ave., Buffalo 25, N.Y., manufacturer of aluminum windows, announces the purchase of all outstanding stock of **Pro-Tect-U Jalousie Corporation of Coral Gables, Fla.,** manufacturer of wood and glass jalousies.

Fred Schmid Associates, 8032 W. Third St., Los Angeles 48, Calif., food service designers, announces the opening of a central office at **5875 N. Lincoln Ave., Chicago 45.**

The World Dryer Corporation is the new corporate name of the manufacturer of electric hand and hair dryers formerly known as **National Dryer Corporation, 616 W. Adams St., Chicago 6.** The company reports that the corporate name change was made because of its international distribution.

now..a *New* resilient floor treatment for **maximum safety underfoot**

Complete protection with complete safety.

Super Hilco-Lustre® FLOOR POLISH

Now at long last . . . . . .

"Slip Resistance" PLUS—

TOUGHNESS — to withstand heavy traffic.

RESILIENCY — to eliminate brittleness, chipping and flaking.

HARD FILM — to guard against soft tacky surface that foot-marks, catches and holds dirt.

Easy Sweeping — no drag on mop. Soil and dust sweeps free.

Stays Cleaner Longer — Less frequent scrubbing and damp mopping — Dirt and dust will not become embedded.

Fewer Recoatings Necessary — Saves material and labor costs.

Withstands Water Spillage — Will not turn white.

Lustre Buffs Back to like new appearance.

Traffic Lanes Patch in without recoating entire area.

Can Be Removed like water emulsion waxes.

ASK YOUR NEARBY HILLYARD MAINTAINEER ® to demonstrate SUPER HILCO-LUSTRE

— another Hillyard First — Tested and Proved. The Maintaineer is a trained floor consultant, experienced in solving the most difficult floor problems. He is "On Your Staff, Not Your Payroll"

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Passaic, N. J.
San Jose, Calif.

In our 49th Year of Service

HILLYARD, St. Joseph, Mo.

Without obligation, please have the Hillyard Maintaineer nearest me PROVE that Super Hilco-Lustre is what my floors need.

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Institution _____

Address _____

City _____ *State* _____

...because they went to their doctors in time

Many thousands of Americans are being cured of cancer every year. More and more people are going to their doctors *in time*. That is encouraging!

But the tragic fact, our doctors tell us, is that every third cancer death is a needless death... *twice* as many could be saved.

A great many cancers can be cured, but only if properly treated before they have begun to spread or "colonize" in other parts of the body.

YOUR BEST CANCER INSURANCE is (1) to see your doctor *every year* for a thorough checkup, no matter how *well* you may feel (2) to see your doctor *immediately* at the first sign of any one of the 7 danger signals that may mean cancer.

For a list of those life-saving warning signals and other facts of *life* about cancer, call the American Cancer Society office nearest you or simply write to "Cancer" in care of your local Post Office.

American Cancer Society

PROD

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TO REQUEST PRODUCT INFORMATION FOLD THIS FLAP OUT AND USE THESE CARDS

(We pay the postage)

The two cards below are detachable and are addressed to us. With this flap folded out you can turn through the magazine for the items on which you want further information.

When, in either an advertisement or "What's New" you locate the product, turn to the index to advertisements on the preceding page or to the index of "What's New" items (right) where you will find the key number for the item. Items advertised are listed alphabetically by manufacturer. "What's New" items are in Key Number order. Circle the corresponding key number on the card below for each item in which you are interested. The second card is for the use of someone else who may also want product data.

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PERMIT NO. 136
SEC. 34.9 P. L. & R.

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PRODUCT INFORMATION

Index to Products Advertised

INDEX TO "WHAT'S NEW" ON FOLLOWING PAGE →

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June, 1956

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NAME _____ TITLE _____

INSTITUTION _____

ADDRESS _____ CITY _____ ZONE _____ STATE _____

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